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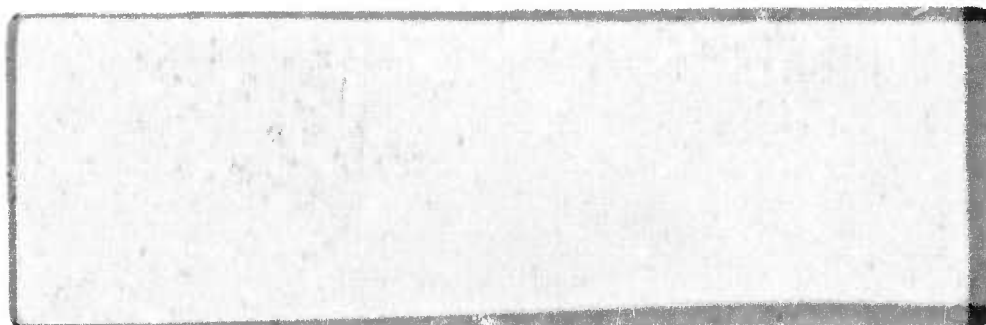
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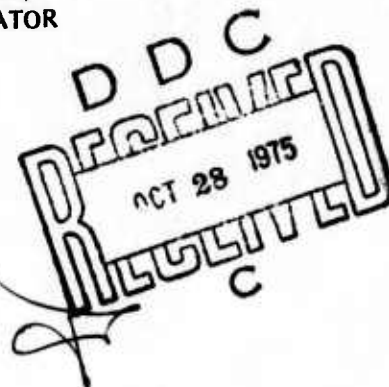
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B-1 SYSTEMS APPROACH TO TRAINING TECHNICAL MEMORANDUM SAT-2

BEHAVIORAL OBJECTIVES FOR THE PILOT, COPILOT, AND OFFENSIVE SYSTEMS OPERATOR

VOLUME 1
JULY 1975

Distribution limited to U.S. Government Agencies only; test and evaluation; July 1975. Other requests for this document must be referred to B-1 System Program Office, ASD/YHCD, Wright-Patterson Air Force Base, Ohio, 45433.



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PREFACE

This document is one of several technical memoranda which have been delivered to the B-1 Systems Project Office (B-1 SPO) in performance of the Systems Approach to Training (SAT) Task under Contract Number F33657-75-C-0021. Each of the separate SAT documents is listed below. Additional copies may be requested from: B-1 Systems Project Office, Data Configuration Division, Wright-Patterson Air Force Base, Ohio.

<u>Technical Memoranda</u>	<u>Number</u>	<u>Author(s)</u>	<u>Date</u>
B-1 Systems Approach to Training, Final Report.	SAT- 1 Vol. 1	R. Sugarman S. Johnson W. Ring	July 1975
B-1 Systems Approach to Training, Final Report. Appendix A: Cost Details.	SAT- 1 Vol. 2	H. Reif W. Ring	July 1975
B-1 Systems Approach to Training, Final Report. Appendix B: Bibliography and Data Collection Trips.	SAT- 1 Vol. 3	A. Blair	July 1975
B-1 Systems Approach to Training, Final Report. Appendix C: Personnel Qualifications Catalog.	SAT- 1 Vol. 4	E. Weisbeck	July 1975
Behavioral Objectives for the Pilot, Copilot, and Offensive Systems Operator.	SAT- 2 Vol. 1 & 2	J. Mitchell W. Hinton S. Johnson	July 1975
Simulation Technology Assessment Report (STAR).	SAT- 3	S. Johnson J. Knight R. Sugarman	July 1975
Sorting Model for B-1 Aircrew Training Data. User's and Programmer's Guide.	SAT- 4	J. Menig T. Ranney	July 1975
Training Resources Analytic Model (TRAM). User's Manual.	SAT- 5	W. Ring G. Gaidasz J. Menig W. Stortz	July 1975
Training Resources Analytic Model (TRAM). Programmer's Manual.	SAT- 6	W. Ring G. Gaidasz J. Menig	July 1975
Task Analysis Listings.	SAT- 7	J. Mitchell T. Ranney	July 1975
Control/Display Catalog and Action Verb Thesaurus.	SAT- 8	T. Ranney A. Blair	July 1975

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B-1 Aircrew Behavioral Objectives

John F. Mitchell
William M. Hinton, Jr.
Steven L. Johnson

SUMMARY

The Systems Approach to Training (SAT) for the B-1 aircrew involves the transformation of task analysis data into complete and precise statements of all behaviors necessary to carry out the B-1 mission. The resulting Behavioral Objectives delineate the "who, what, how, when and how well" of each definable behavior. A compilation of behavioral objectives for the pilot, copilot and offensive system operator is contained in this report, preceded by a brief description of the procedures for their development.

Volume 1 contains introductory information and Mission Segments 1-15. Volume 2 contains Mission Segment 16 and Emergency Procedures.

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BACKGROUND

Using the task analysis data supplied by the B-1 SPO and whatever emergency procedures were available from the first flight manual and the "Mockup Demonstration of Contingency Flight Crew Procedures" (NA-74-531), SAT analyst have created a computerized task analysis data base. For each task element, the data base contains the following information:

- Task element title.
- Task element number.
- Operator.
- Behavior.
- Task duration.
- Crew interaction.
- Previous task element.
- Next task element.
- Comments (categorized).

The task element title and number are simply accounting information which allow one to identify the element and equate identical task elements that occur throughout the mission. The operator is the crewmember performing the behavior. The behavior describes the actual activity occurring in the task element. This behavior consists of stimuli that cue the operator to initiate an action, an action phase (e.g., push the throttles), and stimuli that cue the operator that the activity is completed. A more detailed format utilized for the behavior attribute is discussed in the next section.

The task duration corresponds to the time required to accomplish the task elements. These times can be units (seconds), continuous, or indefinite (depending upon the configuration). Crew interaction involves communication or coordination between the operator and one or more other individuals (other crew members, refueling tanker crew, etc.). Previous task element information is used to illustrate the functional dependencies among task elements. For example, the task element that results in electrical power being available must occur prior to the VHF radio being used. Note that the previous task element does not necessarily immediately precede the present task element. This information corresponds to "functional" sequences, rather than "temporal" sequences. The next task element is the element that follows (temporally) the present task element. This information is utilized in developing the time line. The comments are supplemental in nature and contain additional information which is relevant to the particular task element.

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Format of the Task Element Behavior.

As previously discussed, the format of the behavioral attribute of the task analysis data base corresponds to the stimulus-response characteristics of the activity. The major components that characterize the behavioral aspect of a task element are as follows:

Initiation Cue -- Action Verb -- Control -- Completion Cue.

The Initiation Cue is the stimulus complex that informs the operator to begin the activity. The initiation cue consists of a Boolean combination of relational statements. The relational statements involve a stimulus "source" (e.g., control or display), a connective (e.g., equal to, greater than), and a value (e.g., "on", 3000, "red"). An example of an initiation cue is: Altimeter - greater than - 10,000 feet and Mach indicator - equals - 1.7 mach. The necessity for a Boolean combination results from the fact that some initiation cues consist of various situations, any of which could be met ("or" statement), or all of which must be met ("and" statement).

The Action Verb is selected from a standardized vocabulary of terms (e.g., pull, rotate, and align) that was developed for the B-1 SAT as an adaptation of the work of R.G. Oller. The action verb has a correspondence to the control which is operated upon.

The next component of the task description is the Control. This is the grammatical direct object of the Action Verb. These controls are a subset of the entries in the Control/Display Catalog. It should be noted that it is sometimes the case that a "display" can be operated upon (e.g., monitor the altimeter) and, therefore, becomes the "control."

The Completion Cue is of the same form as the Initiation Cue. In fact, it is often the case that the Completion Cue of one task element is the Initiation Cue of the next task element. As with the Initiation Cue, the Completion Cues are Boolean combinations of relational statements. However, in the former case, there is only one conglomerate cue; whereas, in the latter case there are often two or more conglomerate cues, each of which leads to a different next task element. For example, when a decision is made by a crew member, two alternative actions (next task elements) might be possible, depending upon the information upon which the decision was based. A more common situation is the case where one completion cue represents the normal operation and other completion cues represent corrective actions.

Transformation of Task Analysis Data into Behavioral Objectives.

The first step in developing the behavioral objectives was to partition the totality of task elements into behavioral components. These components were characterized as being: (1) maneuvers, (2) checklists, or (3) procedures (memorized checklists). The "first cut" behavioral objectives were developed for each of these behavioral components. To determine behav-

ioral commonalities among the task elements, it was necessary first to determine the skills and knowledges necessary to perform the actions. Skills, as defined for this purpose, refer only to perceptual-motor behaviors which require coordination and timing. Therefore, a covert response such as "calculation" is considered as being a knowledge because there is no motor aspect to the operation. Because skills are composed of overt motor responses (actions), the action verbs (in combination with the performance limits) define the skills necessary to perform the task element. A distinction to be drawn is between "simple actions" and a skill. A simple action does not require coordination (e.g., flipping a toggle switch), whereas a skill does (e.g., tracking). Although all of the action verbs represent a response, it is obvious that most of the responses are "simple actions" and, therefore, are in the trainee's repertoire prior to his entering the training program. Tracking responses, such as those that occur during instrument landings and aerial refueling, represent one of the most complex categories of skills.

In developing the behavioral objectives, additional effort is required in the classification of the task elements into knowledge categories. The categories include:

1. Identify--establish the identity and precise characteristics.
2. Recall--retrieve facts stored in memory.
3. Interpret--translate or explain the meaning.
4. Calculate (mental)--determine by algebraic process.
5. Predict--determine in advance that an event will occur.

When the skills and knowledges are analyzed for each task element, it is possible to compare task elements to establish commonalities. These commonalities are the basis for synthesizing across elements to form aggregate behavioral objectives. That is, if the pilot is required to determine his altitude during both cruise and landing, it might represent one, rather than two, behavioral objectives. The resulting behavioral objectives contain data in the form of stimulus-response terminology that illustrate the skills and knowledges necessary and the proficiency needed to accomplish the mission.

Behavioral Objective Format.

The format of the behavioral objectives involve the following:

- Behavioral objective title.
- Initial conditions.
- Concurrent tasks.
- Interaction tasks.

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- Performance limits.
- Enabling objectives.
- Ancillary objectives.
- Operators.
- Task elements included.
- Objective criticality.
- Objective difficulty

The behavioral objective title is simply a descriptive identification. The initial conditions illustrate the state of the aircraft prior to conducting the objective behaviors. Concurrent tasks are those tasks which the operator must perform at the same time he is executing a particular behavior. For example, during a maneuver to initiate a climb, it might be required that the operator maintain a constant heading. This information is necessary in order to determine the difficulty and criticality of the objective. Interaction tasks identify those behaviors which require interactions among crew members. This information contributes to the determination of training device specifications.

The behaviors involved in the objective are the same behaviors that are involved in the task elements that are encompassed by the objective. In fact, the format of the behaviors is such that they can be printed directly from the computer in report form. The basic components of the behavior are the initiation cue, action verb, control or display acted upon, and the completion cue. The general behavioral format and an example of a behavior in the format, which is used in the behavioral objectives which follow, are shown below.

FORMAT

Task Element Number

Task Element Name

Action Verb

Initiation Cue
Control or Display
Completion Cue

EXAMPLE

7.3.2.001

CHECK 'LATCHED' ADVISORY LIGHT IS ON

CHECK

BOOM OPERATOR UHF = TANKER CONTACT
LATCHED ADVISORY LIGHT
FLASHBLINDNESS WINDOW-LEFT = CONTACT MADE*
AND LATCHED ADVISORY LIGHT = 'LATCHED'

Simple quotes in the behaviors indicate legends and messages (e.g., alphanumeric displays, lighted legends, and radio communications). Asterisks in the behaviors indicate that categorized comments are included in the data base for that behavior. In the objectives, the operation and location of the controls and displays is assumed. Such information will have been presented in the portion of training dealing with systems knowledge.

The performance limits that must be met to successfully perform the objective are one of the most difficult aspects in developing a "valid" training program. The limits must be referenced to the operational mission and reflect "necessary" criteria, below which the mission may be compromised. In many cases, the "necessary" criteria for performance are yet to be determined (TBD) and are, therefore, not specified. For other objectives, performance limits are not appropriate.

Enabling objectives describe the prerequisite skills and knowledges necessary to successfully perform the behavioral objective. These abilities include both overt and covert behaviors. Examples of covert behaviors include calculations, recall, etc. Coordination is an example of an overt enabling objective. The purpose of the enabling objective is to make explicit the abilities necessary by synthesizing across the simple actions involved in the task data base. It is, therefore, an elaboration of the data base which is not handled adequately in stimulus-response terms. The knowledge necessary to accomplish the objective is a particularly important aspect of enabling objectives. This knowledge relates to principles and concepts that are necessary to perform what appears, on the surface, to be a simple behavior. The enabling objectives are the basis of a hierarchy that is a necessary tool in the development of a training program.

Ancillary objectives are used to illustrate information that the operator needs to have in order to handle abnormal events. The task analysis data base represents a success-oriented mission and does not address malfunctions. Therefore, in addition to the enabling objectives necessary to accomplish the successful mission, the ancillary objectives are necessary to handle malfunctions.

The operator is the crewmember that performs the behavior. Since pilots and copilots will be trained using identical behavioral objectives, both are included on those objectives which are performed by one or both.

The task elements are the elements that the objective encompasses. When all objectives have been written, all task elements within the mission must be accounted for.

Criticality is referenced to the importance of the most likely results of incorrectly performing the behavioral objective.

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Difficulty refers to the degree to which training time or resources should be devoted to attain a minimum level of proficiency. Both criticality and difficulty factors are graded on a three point scale. The lowest rating (1) is assigned to the least critical or difficult behavioral objectives, and the highest rating (3) to the most critical or difficult ones. An intermediate rating (2) is dictated when any behavioral objective falls in between the two extremes.

A minimum level of criticality is assigned when no important effect is evident or the mission is degraded slightly. The second level of criticality occurs when the mission is shorted or equipment is damaged. The highest level of criticality results when personnel injury or catastrophe (crash/death) is the result of noncompliance with one or more of the enabling objectives. Difficulty levels are specified in more general terms than criticality. The minimum level means it is not difficult, the middle level means it is of moderate difficulty and the highest level refers to a very difficult task, with each such judgment being made with respect to the totality of tasks. Criticality and difficulty levels are based, in part, on estimates made by Air Force SAC personnel as supplemental data.

A list of behavioral objectives by number, operator, and name is given on the next few pages. This listing is followed by the behavioral objectives. While the Mission Segments are numbered consecutively, the Behavioral Objectives for Emergency Procedures have been combined into a single grouping, arbitrarily designated as Mission Segment 20.

LIST OF BEHAVIORAL OBJECTIVES

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NUMBER	DESCRIPTION	OPERATOR *
1.1	Post Security Guards	P
1.2	Perform Exterior Inspection	P
1.3	Perform Exterior Inspection	O
1.4	Power (Power Off) Interior Inspection	P
1.5	Perform (Power Off) Interior Inspection	O
1.6	Perform(Power On) Interior Inspection	P
1.7	Perform (Power On) Interior Inspection	O
1.8	Perform Cocking	P
1.9	Perform Cocking	O
1.10	Perform Daily Alert PreFlight	P
1.11	Perform Daily Alert PreFlight	O
1.12	Rotate Crews	P
1.13	Rotate Crews	O
2.1	Prepare To Enter Air Vehicle	P
2.2	Prepare To Enter Air Vehicle	O
2.3	Enter Crew Stations	P
2.4	Enter Crew Stations	O
2.5	Check APU Start Status	P
2.6	Set Parking Brake	P
2.7	Perform Engine Start	P
2.8	Monitor UHF Communications	P
2.9	Monitor UHF Communications	O
2.10	Restart APU's	P
2.11	Perform Engines Shutdown	P
3.1	Pre-Taxi Operations	P
3.2	Pre-Taxi Operations	O
3.3	"Prepare To Taxi"	P
3.4	Initiate Taxi	P
3.5	"Monitoring UHF And Instruments While Taxiing"	P
3.6	"Secure Restraints And Remove Safety Pins"	P
3.7	"Steer A/V Onto Runway"	P
3.8	"Execute Ground FLR Update"	O
4.1	Perform Pre-T.O. Checks	P
4.2	Perform Pre-T.O. Checks	O
4.3	Initiate Take-Off	P
4.4	Perform Take-Off	P
5.1	Initiate Climb	P
5.2	Perform Climb	P
5.3	Climb Out	P
5.4	Climb Out	O

* P refers to pilot and/or copilot. O refers to offensive systems operator.

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NUMBER	DESCRIPTION	OPERATOR
6.1	Perform Level-Off	P
6.2	Crew Station Check	O
6.3	Crew Station Check	P
6.4	Activate Functional Systems	P
6.5	Activate Functional Systems	O
6.6	Apply Power To Stores	O
6.7	Load EWO Mission Cassette	O
6.8	Execute FLR Update	O
7.1	Pre-Rendezvous (Procedures)	P
7.2	Pre-Rendezvous Procedures	O
7.3	Tanker Identification Procedure	O
7.4	ARIP Descent Procedures	O
7.5	Execute ARIP Descent	P
7.6	Execute PRE-ARCP Level-Off	P
7.7	Pre-ARCP Level-Off Communication and Tanker Turn Initiation	O
7.8	Establish AR Formation	P
7.9	Post-ARCP Procedures	O
7.10	Closure On Tanker Procedures	P
7.11	Closure On Tanker	P
7.12	Closure On Tanker Procedures	O
7.13	Establish Pre-Contact Position	P
7.14	Pre-Contact Procedures	O
7.15	Pre-Contact Procedures	P
7.16	Establish Contact Position	P
7.17	Aerial Refueling Contact Procedures	P
7.18	Execute Aerial Refueling	P
7.19	Disconnect Procedures	P
7.20	Post-Disconnect Maneuver	P
7.21	Depart Tanker	P
7.22	Initiate Climb	P
7.23	Engage Altitude Hold and Auto Throttle	P
7.24	End Aerial Refueling	P
7.25	End Aerial Refueling	O
8.1	Decode Execution Order	P
8.2	Monitor/Adjust System Avionics	O
8.3	Receive and Validate Mission Execution Order	P
8.4	Turn On Strike Course	P
8.5	HHCL Entry Procedures	P
8.6	HHCL Entry Procedures	O
8.7	Perform Nuclear PA/Consent Procedure	O
8.8	Perform Nuclear PA/Consent Procedure	P
8.9	Initiate Weapons Monitoring	O

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NUMBER	DESCRIPTION	OPERATOR
9.1	Establish Supersonic Flight	P
9.2	Perform Supersonic Climb	P
9.3	Level-Off Supersonically	P
9.4	Engage Auto Pilot And Altitude Hold	P
9.5	Execute FLR Update	O
9.6	Execute Altitude Calibration	O
9.7	Perform IP Acquisition	O
9.8	Perform Gravity Store Pre-Release	P
9.9	Perform Gravity Store Pre-Release	O
9.10	Perform Bomb Run Tracking	O
9.11	Set FLR For Gravity Store Release	O
9.12	Perform Gravity Store Release	P
9.13	Perform Gravity Store Release	O
9.14	Bomb Run Altitude Change	P
10.1	Perform TF Operational Procedures	P
10.2	Execute TF Operation Checks	P
10.3	Complete Pre-Descent To Low Level	O
10.4	Complete Pre-Descent To Low Level	P
10.5	Perform Pre-Descent To Low Level Checks	P
10.6	Initiate Descent	P
10.7	Perform Descent	P
10.8	Turn To Initial Check Point	P
10.9	Turn To Initial Check Point	O
10.10	Perform Pre-Level-Off At TF Altitude	P
10.11	Level-Off at TF Altitude	O
10.12	Level-Off At TF Altitude	P
10.13	Execute Altitude Calibration	O
11.1	Select TF Modes For ATF	P
11.2	Complete AFCS And TFR Checks	P
11.3	Low Level Cruise (ATF)	P
11.4	Monitor TF Modes For ATF	O
11.5	Monitor Displays For ATF	P
11.6	Change To MTF	P
11.7	Low Level Cruise (MTF)	P
11.8	Monitor Display For MTF	P
11.9	Determine Lateral Course Deviation	P
11.10	Determine Lateral Course Deviation	O
11.11	Maneuver A/V at Low Level	P
11.12	Monitor Lateral Course Deviation	P
11.13	Engage AFCS For ATF	P
11.14	Perform EVS Update	O
11.15	Perform EVS Update	P
11.16	Execute FLR Update	O
11.17	Execute Altitude Calibration	O

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NUMBER	DESCRIPTION	OPERATOR
12.1	Perform BDA Operations	O
12.2	Perform BDA Operations	P
12.3	Perform SRAM Initialization	P
12.4	Perform SRAM Initialization	O
12.5	Perform SRAM Pre-Launch Operations	O
12.6	Perform SRAM Pre-Launch Operations	P
12.7	Perform SRAM Pre-Launch Procedures	P
12.8	Perform SRAM Launch Operations	P
12.9	Perform SRAM Launch Operations	O
12.10	Perform Gravity Store Pre-Release	O
12.11	Perform Gravity Store Pre-Release	P
12.12	Perform Bomb Run Tracking	O
12.13	Perform Gravity Store Release	P
12.14	Perform Gravity Store Release	O
13.1	Terminate TF Procedures	P
13.2	Terminate TF Operations	P
13.3	Establish Subsonic Cruise Operations	P
13.4	Establish Subsonic Cruise Procedures	P
13.5	Assemble Strike Report Information	O
13.6	Transmit Strike Report	P
14.1	Review Penetration Procedures	P
14.2	Perform Pre-Descent Procedures	P
14.3	Perform Pre-Descent Procedures	O
14.4	Configure Flight Station For Descent Procedures	P
14.5	Configure Flight Station for Descent Checks	P
14.6	Configure Flight Station For Descent Procedures	O
14.7	Execute Descent	P
14.8	Cross Check Altimeters	P
14.9	Perform Descent Procedures	O
14.10	Configure For Landing Approach	P
14.11	Verify Magnetic Variation	O
15.1	Perform Before Landing Checks	P
15.2	Perform Pre-Aila Operations	P
15.3	Perform Pre-Aila Operations	O
15.4	Perform Automatic Aila	P
15.5	Acquire Runway Visually	P
15.6	Perform Touchdown	P
15.7	Decelerate On Landing Roll	P
15.8	After Landing Checks	P
15.9	After Landing Checks	O
15.10	Taxi And Park Air Vehicle	P
15.11	Flight Station Shut Down	P
15.12	Avionics Station Shut Down	O
15.13	Start L/APU	P
15.14	Perform Engine Shutdown	P
15.15	Pre-Exit Procedures	O

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NUMBER	DESCRIPTION	OPERATOR
16.1	Configure A/V Ground Refuel Panel For Refuel	P
16.2	Determine Fuel Quantity On Board	P
16.3	Select Fuel Quantity To Be Uploaded	P
16.4	Monitor Fuel Flow Into A/V	P
16.5	Configure A/V Ground Refuel Panel To Terminate Refueling	P
16.6	Verify Fuel Quantity On A/V	P
16.7	Secure A/V After Refueling Operation	P
16.8	Verify A/V Status	P
16.9	Perform Walk Around Inspection	P
16.10	Perform Walk Around Inspection	O
20.1	Perform Internal Engine Fire Procedures	P
20.2	Perform Nacelle Fire-Engine Procedures	P
20.3	Perform Nacelle Fire-APU Procedures	P
20.4	Perform Fire Detection System Fail Procedures	P
20.5	Perform Emergency Air Vehicle Braking	P
20.6	Abandon Air Vehicle On Ground	P
20.7	Abort Take Off	P
20.8	Abort Take Off-Engine Failure	P
20.9	Continue Take Off-Engine Failure	P
20.10	Abort Take Off-Engine Fire	P
20.11	Continue Take Off-Engine Fire	P
20.12	Perform Loss of Crew Compartment Pressure Procedures	P
20.13	Perform Cabin Overheat Procedures	P
20.14	Perform Cabin Too Cold Procedures	P
20.15	Perform Avionics Compartment Overheat Procedures	P
20.16	Perform Smoke or Fumes In Crew Compartment Procedures	P
20.17	Perform Before Ejection Procedures	P
20.18	Perform Ejection	P
20.19	Perform Throttle System Malfunction Procedures	P
20.20	Perform Engine Failure (Non-Mechanical) During Flight Procedures	P
20.21	Perform Engine Failure (Mechanical) During Flight Procedures	P
20.22	Perform Unassisted (Windmilling) Airstart	P
20.23	Perform APU-Assisted Airstart	P
20.24	Perform Engine Stall Procedures	P
20.25	Perform Engine Fire During Flight Procedures	P
20.26	Perform APU Fire During Flight Procedures	P
20.27	Perform Low Oil Pressure/Quantity Procedures	P
20.28	Perform Excessive Engine Vibration Procedures	P
20.29	Perform Fuel Tanks 1 And 4 Will Not Transfer To Main Tanks Procedures	P
20.30	Perform Fuel Cooling Loop Return Failure Procedures	P

NUMBER	DESCRIPTION	OPERATOR
20.31	Perform Fuel Cooling Loop Crossover Failure Procedures	P
20.32	Perform Fuel Cooling Loop Ram Air Scoop System Failure Procedures	P
20.33	Perform Fuel System Operation During Emergency Generator Operation	P
20.34	Perform Single Generator Failure Procedures	P
20.35	Perform Double Generator Failure Procedures	P
20.36	Perform Triple Generator Failure Procedures	P
20.37	Perform Single Bus Tie Failure Procedures	P
20.38	Perform Both Bus Tie Failure Procedures	P
20.39	Perform Bus Failure Procedures	P
20.40	Perform Complete Loss Of Electrical Power Procedures	P
20.41	Perform Hydraulic Pressure & Quantity Failure Procedures	P
20.42	Perform Loss of Hydraulic Systems 2,3 and 4 Procedures	P
20.43	Perform SMCS Failure Procedures	P
20.44	Perform Pitch Trim Normal System Failure Procedures	P
20.45	Perform Wing Sweep Runaway In Aft Direction Procedures	P
20.46	Perform Wing Sweep Runaway In Forward Direction Procedures	P
20.47	Perform Wing Will Not Maintain Full Forward Sweep Procedures	P
20.48	Perform Landing With Three-Engines-Inoperative	P
20.49	Perform Landing Gear Malfunction Procedures	P
20.50	Perform Landing With Any Gear Retracted or Locked	P
20.51	Perform Nosewheel Steering System Failure Procedures	P
20.52	Perform Anti-Skid System Failure Procedures	P
20.53	Perform Nose Gear Tire Failure Landing	P
20.54	Perform Main Gear Tire Failure Landing	P
20.55	Perform Belly Landing	P
20.56	Perform Ditching Of The Air Vehicle	P

MISSION SEGMENT 1

OBJECTIVE:

POST SECURITY GUARDS

1.1

CRITICALITY: 3 DIFFICULTY: 1

INITIAL CONDITIONS: 1. A/V preflighted by ground crew
2. Weapons checked by MMS personnel

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that guards should be posted after the A/V is EWO configured.

ANCILLARY OBJECTIVES:

1. Recall that the USAF "two-man" policy is in effect after the weapons have been loaded on the A/V.

OPERATOR: P/CP

TASK ELEMENTS: 1.1.1.1

01.1.1.001.00

POST SECURITY GUARDS

CHECK

A-V

= EWO CONFIGURED

GUARDED A-V

A-V

= GUARDED

OBJECTIVE:

PERFORM EXTERIOR INSPECTION

1.2

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS:

1. A/V preflighted by ground crew
2. Weapons checked by MMS personnel
3. Security guards posted

CONCURRENT TASKS:

INTERACTION TASKS:

1. OSO performs exterior inspection checks
2. DSO performs exterior inspection checks

PERFORMANCE LIMITS:

1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the Form 781 indicates any outstanding discrepancies about the A/V and the stores configuration in the weapons bays.
2. Recall that all control surfaces should have complete freedom of movement.
3. Recall which access doors and covers should be secured and which should remain open until after the engines have been started.
4. Recall that the covers for the angle-of-attack vanes should be removed.
5. Recall which ground safety locks and pins, such as landing gear "downlocks," should remain installed until the A/V has been "cocked."
6. Recall how the OLOGS (Open Loop Oxygen Generating System) levers should be positioned prior to "cocking" the A/V.

ANCILLARY OBJECTIVES:

1. Recall that the covers for the total temperature and pitot-static probes should be removed and the probes should be free of foreign material.

OPERATOR: P/CP

TASK ELEMENTS:

1.1.1.2	1.1.2.3	1.1.3.2
1.1.2.1	1.1.2.4	
1.1.2.2	1.1.2.5	

01.1.1.002.00

CHECK FORM 781*

CHECK

AIR-VEHICLE

= EWO CONFIGURED

FORM 781

FORM 781

= CHECKED

01.1.2.001.00

FOLLOW THE EXTERIOR INSPECTION ROUTE.*

FOLLOW

FORM 781

= CHECKED

A-V EXTERIOR INSPECTION ROUTE

EXTERIOR INSPECTION ROUTE

= COMPLETED

01.1.2.002.00

CHECK ALL SURFACES*

CHECK

FORM 781

= CHECKED

A-V SURFACES

A-V SURFACES

= CHECKED

01.1.2.003.00

CHECK ALL ACCESS DOORS AND COVERS FOR SECURITY

CHECK

FORM 781

= CHECKED

A-V ACCESS DOORS AND COVERS

ACCESS DOORS AND COVERS

= SECURE

01.1.2.004.00

CHECK THE ADA VANES*

CHECK

FORM 781

= CHECKED

ANGLE OF ATTACK VANES

ANGLE OF ATTACK VANES

= CHECKED

01.1.2.005.00

REMOVE GROUND SAFETY PINS AND SAFETY LOCKS*

FORM 781

= COMPLETED

REMOVE

GROUND SAFETY PINS AND LOCKS

GROUND SAFETY PINS AND LOCKS = REMOVED

01.1.3.002.00

PERFORM EXT CREW ENTRYWAY INSPECTION, WT AND BALANCE, LOGS

PERFORM

EXT CREW ENTRYWAY INSPECTION

OBJECTIVE:

PERFORM EXTERIOR INSPECTION

1.3

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. A/V preflighted by ground crew
2. Weapons checked by MMS personnel
3. Security guards posted

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP perform exterior inspection checks
2. DSO performs exterior inspection checks

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the Form 781 indicates any outstanding discrepancies about the A/V and the stores configurations in the weapons bays.
2. Recall what should be inspected on a gravity weapon.
3. Recall what should be inspected on a SRAM.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 1.1.1.2
1.1.3.1

01.1.1.002.00

CHECK FORM 781*

AIR-VEHICLE

= EWO CONFIGURED

CHECK

FORM 781

FORM 781

= CHECKED

01.1.3.001.00

PERFORM STORES INSPECTION*

INSPECT

STORES

OBJECTIVE: PERFORM (POWER OFF) INTERIOR INSPECTION 1.4

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Exterior inspection performed by flight crew.

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO performs (power off) interior inspection checks.
 2. DSO performs (power off) interior inspection checks.

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the flashblindness protection windows should be transparent when not exposed to bright light.
2. Recall that the flight publications should be current for the period of time the A/V will be on alert status.
3. Recall that the CSSC (Coded Switch Set Controller) rotary switch assembly can be set manually by moving six thumbwheels.
4. Recall that with the battery switch in OFF, the batteries are removed from the dc busses.
5. Recall that with the external power control in OFF, external power is electrically disconnected from the air vehicle bus.
6. Recall that the restraint harness control lever is located on the left side of the seat pan. The forward position locks the restraint harness inertial reel and the aft position unlocks it.
7. Recall that the quantity of oxygen on board the A/V is indicated in liters.
8. Recall how to determine whether the oxygen mask is suitable for flying.
9. Recall how to determine whether the communication leads in the A/V are properly inserted into the crewmember's personal equipment.
10. Recall the normal setting of the crew temperature control which provides a comfortable temperature in the crew compartment when the ECS (Environmental Control System) is turned on.

ENABLING OBJECTIVES: (Continued)

2.

11. Recall that with air source control switches #1 and #2 in ON, air flow can be controlled from the #1 and #2 avionics coolant refrigeration packages, respectively.
12. Recall that with the air source control switches ST and CREW in ON, air flow can be controlled from the stores and crew compartment refrigeration packages, respectively.
13. Recall that by setting the three avionics air mode select switches to NORM, conditioned air can be controlled to the intermediate, the left central and the right central avionics bays.
14. Recall that with the crew air source mode switch in NORM, conditioned cabin air can be provided at a rate necessary to maintain proper cabin conditioning and pressurization.
15. Recall that with the engine bleed air control switches set at 1, 2, 3 and 4, bleed air can be provided from the corresponding numbered engine.
16. Recall that with the fuel cooling loop return control switch in NORM, excess loop fuel can be returned to the main tanks through the pressure relief valves.
17. Recall that with the fuel cooling loop crossover switch in NORM, each cooling loop pump can supply cooling fuel to its respective loop.
18. Recall that with the pitot heat control switch in OFF, the thermostatically controlled heater elements in the CADS (Central Air Data System) pitot head, total temperature probe and angle-of-attack sensor are de-energized.
19. Recall that the extreme aft position of each throttle is equivalent to engine idle at the engine main control.
20. Recall that with the flight director altitude reference in OFF, neither the altitude reference nor the terrain-following modes could be activated.
21. Recall that with the Nuclear Consent switch in NORM, the switch is in the off position.
22. Recall that the landing gear lever is heavily detented, but not locked, when in the down position.
23. Recall that by setting the VSD mode selector switch to STBY, the DU (Display Unit) CRT filaments and logic will be on, but the screen will remain blank (dark) until electrical power is on.

24. Recall that the radar altimeter variable altitude limit index marker should be set to the minimum decision altitude desired for ILS landings or to the clearance plane setting to be used with the terrain following radar.
25. Recall that with the engine anti-ice switch in AUTO, the anti-ice bleed air valves will be electronically linked to the ice detectors.
26. Recall that with the windshield wash switch in the center position, neither the pilot's or copilot's windshield can be provided with a wash solution.
27. Recall that with the antiskid switch in ON, automatic braking control can be provided by limiting the brake pressure so that maximum braking may be obtained with no tire skidding.
28. Recall that with the landing/taxi light control switch in the center position, all three landing/taxi lights will be off.
29. Recall that with the windshield rain repellent select switch in the center position, neither the pilot's or copilot's windshield can be provided with a rain repellent solution.
30. Recall that with the GSS mode selector switch in SLAVED, the system can be operated as a gyro stabilized magnetic compass.
31. Recall that the latitude set moving scale knob should be positioned to the latitude being flown, because heading accuracy can be improved when operating the GSS in the slaved mode.
32. Recall that the hemisphere selector switch should be set to the N or S corresponding to the hemisphere the A/V is operating in, to provide the proper polarity for gyro drift correction caused by the earth's rotation.
33. Recall that the normal position for the emergency generator control switch is the AUTO mode which can provide automatic changeover to the emergency generator upon loss of normal power on the essential bus.
34. Recall that with the alternate landing gear control switch in NORM, the circuitry for normal landing gear extension and retraction using the control handle can be provided.
35. Recall that with the fuel dump switch in the off position, emergency dumping of fuel can be prevented.
36. Recall that the aerial refueling override switch in NORM can provide automatic sequencing of the refueling receptacle toggle latches.

37. Recall that with the reverse aerial refueling switch in NORM, no fuel flow can be made from the A/V to the tanker.
38. Recall that with the LN₂ inerting switch in the LN₂ position, automatic fuel tank inerting and pressurization can be provided.
39. Recall that with the crossfeed switch set to the closed position, the left fuel system can feed engines #1 and #2 and the right fuel system can feed engines #3 and #4.
40. Recall that with the fuel fill valves in AUTO, automatic control of the fill valves can be provided during aerial refueling and/or as required by the CG control of the ballast tanks.
41. Recall that with the fuel transfer pumps in AUTO, automatic pump selection can be provided while maintaining proper positioning of the A/V CG, as well as turning off pumps, when tanks are empty.
42. Recall that with the left and right TFR mode selector switches set to OFF, power is removed from each channel.
43. Recall that with the UHF mode selector switch set to OFF, the radio receiver/transmitter is inoperative.
44. Recall that with the HF mode selector switch set to OFF, the high frequency radio receiver/transmitter is inoperative and neither single side band, amplitude modulation equivalent operation or frequency shift keying can be provided.
45. Recall that with the TACAN mode selector switch set to OFF, no electrical power to the system is available for the four operational modes.
46. Recall that with the ILS power switch in OFF, no electrical power can be provided to either navigation receiver.
47. Recall that with the upper and lower polaroid filter controls in FULL UP, the maximum amount of filtering is available for the CRT of the TFR (terrain following radar).
48. Recall that the cursor control can be used to adjust the intensity of the TFR range cursors for best presentation during PPI (azimuth scan) displays.
49. Recall that the memory control of the TFR can be used to increase or decrease the retention time of the direct view storage tube.
50. Recall that the TFR contrast control can be used to adjust the video gain for optimum display presentation.
51. Recall that the video control can be used to adjust the video gain for optimum TFR display presentation.

ENABLING OBJECTIVES: (Continued)

5.

52. Recall that with the TFR range switch set in the E position, the elevation scan can be available for the terrain following mode of operation.
53. Recall that the X-Band transponders can increase the capability of X-Band radars to which it responds, but with the power switch in OFF, all power is removed from the transponders.
54. Recall that the encoder module of the X-Band transponder can produce a single-pulse output if the encoder selector switch is in position 1 and a coded double pulse output, if the encoder selector switch is in positions 2 through 6.
55. Recall that the decoder module of the X-Band transponder has a single-pulse mode and each of 10 double-pulse operating modes.
56. Recall that with the IFF master control knob set to STBY, the equipment will be turned on and warmed up, but will not transmit.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	1.1.4.1	1.1.4.8	1.1.4.15	1.1.4.22
	1.1.4.2	1.1.4.9	1.1.4.16	1.1.4.23
	1.1.4.3	1.1.4.10	1.1.4.17	1.1.4.24
	1.1.4.4	1.1.4.11	1.1.4.19	1.1.4.25
	1.1.4.5	1.1.4.12	1.1.4.21	1.1.4.26
	1.1.4.6	1.1.4.13		1.1.4.27
	1.1.4.7	1.1.4.14		1.1.4.28
	1.1.4.29	1.1.4.36	1.1.4.43	1.1.4.49.1
	1.1.4.30	1.1.4.37	1.1.4.44	1.1.4.49.2
	1.1.4.31	1.1.4.38	1.1.4.45	1.1.4.50
	1.1.4.32	1.1.4.39	1.1.4.46	1.1.4.51
	1.1.4.33	1.1.4.40	1.1.4.47	1.1.4.52
	1.1.4.34	1.1.4.41	1.1.4.48	
	1.1.4.35	1.1.4.42	1.1.4.49	

01.1.4.001.00

CHECK FLASH PROTECTION

CHECK

CHECKLIST

= SEQUENCE

FLASH PROTECTION DEVICES*

FLASH PROTECTION DEVICES

= CHECKED

01.1.4.002.00

CHECK REQUIRED FLIGHT PUBLICATIONS*

CHECK

CHECKLIST

= SEQUENCE

PUBLICATIONS

PUBLICATIONS

= CHECKED

01.1.4.003.00

CHECK CSSC INDICATOR WINDOWS- 'A'

CHECK

CHECKLIST

= SEQUENCE

THUMBWHEEL SWITCH ASSEMBLY

THUMBWHEEL SWITCH ASSEMBLY

= 'A'

01.1.4.004.00

CHECK BATTERY ('BATT') SWITCH 'OFF'

CHECK

CHECKLIST

= SEQUENCE

BATTERY SELECT SWITCH

BATTERY SELECT SWITCH

= OFF

01.1.4.005.00

CHECK EXTERNAL POWER ('EXT PWR') SWITCH 'OFF'

CHECK

CHECKLIST

= SEQUENCE

EXTERNAL POWER CONTROL SWITCH

EXTERNAL POWER CONTROL SWITCH = OFF

01.1.4.006.00

CHECK-CONNECT RESTRAINT HARNESS AND INERTIAL REEL*

	CHECKLIST	= SEQUENCE
CONNECT	RESTRAINT ASSY	
	RESTRAINT ASSY	= CONNECTED

01.1.4.007.00

CHECK OXYGEN SYSTEM

	CHECKLIST	= SEQUENCE
CHECK	DILUTER-PRESSURE DEMAND REGS	
	DILUTER-PRESSURE DEMAND REGS	= CHECKED

01.1.4.008.00

CHECK OXYGEN MASK*

	CHECKLIST	= SEQUENCE
CHECK	OXYGEN MASK	
	OXYGEN MASK	= CHECKED

01.1.4.009.00

CHECK COMMUNICATION LEADS

	CHECKLIST	= SEQUENCE
CHECK	COMMUNICATION LEADS	
	COMMUNICATION LEADS	= CHECKED

01.1.4.010.00

ADJUST 'CREW TEMP' CONTROL KNOB.

	CHECKLIST	= SEQUENCE
ADJUST	CREW TEMP CONTROL	
	CREW TEMP CONTROL	= TBD

01.1.4.011.00

SET 'AIR SOURCE' SWITCHES (4) TO ON: '1', '2', 'ST', 'CREW'

	CHECKLIST	= SEQUENCE
SET	AIR SOURCE CONTROL SWITCHES	
	AIR SOURCE CONTROL SWITCHES	= ON*

01.1.4.012.00

SET AVIONICS AIR SWITCHES ('INTMD; LCTL; RCTL') TO 'NORM'

	CHECKLIST	= SEQUENCE
SET	AVIONICS AIR MODE SELECT	
	AVIONICS AIR MODE SELECT	= NORM*

01.1.4.013.00

SET CREW SWITCH TO 'NORM'

	CHECKLIST	= SEQUENCE
SET	CREW AIR SOURCE MODE SWITCH	
	CREW AIR SOURCE MODE SWITCH	= NORM

01.1.4.014.00

SET 'ENG BLEED AIR' SWITCHES (4) TO ON: '1', '2', '3', '4'

	CHECKLIST	= SEQUENCE
SET	ENGINE BLEED AIR SWITCHES	
	ENGINE BLEED AIR SWITCHES	= ON*

01.1.4.015.00

SET 'FUEL CLG LOOP RTN' SWITCH TO 'NORM'

	CHECKLIST	= SEQUENCE
SET	FUEL COOLING LOOP RETURN SW	
	FUEL COOLING LOOP RETURN SW	= NORM

01.1.4.016.00

SET 'FUEL CLG LOOP CRSVR' SWITCH TO 'NORM'.

	CHECKLIST	= SEQUENCE
SET	COOLING FUEL LOOP CROSSOVER SW	
	COOLING FUEL LOOP CROSSOVER SW= NORM	

01.1.4.017.00

SET 'PITOT HEAT' SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	PITOT HEAT CONTROL SWITCH	
	PITOT HEAT CONTROL SWITCH	= OFF

01.1.4.019.00

CHECK THROTTLES '1', '2', '3', '4' TO 'IDLE'.

	CHECKLIST	= SEQUENCE
CHECK	PRIMARY THROTTLE LEVERS-PI	
	PRIMARY THROTTLE LEVERS-CO	
	PRIMARY THROTTLE LEVERS-PI	= IDLE
	OR PRIMARY THROTTLE LEVERS-CO	= IDLE

01.1.4.021.00

SET 'ELI DIR ALT REF' SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	ALT REF-TER FLW SWITCH	
	ALT REF-TER FLW SWITCH	= OFF

01.1.4.022.00

CHECK 'NUCLEAR' CONSENT SWITCH IN 'NORM' POSITION.

	CHECKLIST	= SEQUENCE
CHECK	NUCLEAR CONSENT SWITCH*	
	NUCLEAR CONSENT SWITCH	= NORM*

01.1.4.023.00

SET CLOCK.

	CHECKLIST	= SEQUENCE
SET	CLOCK	
	CLOCK	= TBD

01.1.4.024.00

CHECK 'LDR GR' (LANDING GEAR) LEVER IS IN 'DN' POSITION.

	CHECKLIST	= SEQUENCE
CHECK	PRIMARY LANDING GEAR CONTROL	
	PRIMARY LANDING GEAR CONTROL	= DN

01.1.4.025.00

SET VSD MODE SELECTOR SWITCH TO 'STBY'

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-VSD	
	MODE SWITCH-VSD	= STBY

01.1.4.026.00

SET RADAR ALTIMETER AND VARIABLE ALTITUDE LIMIT INDEX MARKER

	CHECKLIST	= SEQUENCE
SET	POWER-SET-TEST CONTROL KNOB	
	VARIABLE ALTITUDE INDEX MARKER	= TBD

01.1.4.027.00

SET 'ENG ANTI-ICE' SWITCH TO 'AUTO'

	CHECKLIST	= SEQUENCE
SET	ENGINE ANTI-ICE SWITCH	
	ENGINE ANTI-ICE SWITCH	= AUTO

01.1.4.028.00

SET 'WSHLD WASH' SWITCH IN CENTER (OFF) POSITION.

	CHECKLIST	= SEQUENCE
SET	WINDSHIELD WASH SELECT SWITCH	
	WINDSHIELD WASH SELECT SWITCH	= OFF

01.1.4.029.00

SET 'TO-LDG ANTISKID' SWITCH TO 'ON'

	CHECKLIST	= SEQUENCE
SET	ANTISKID TEST SWITCH	
	ANTISKID TEST SWITCH	= ON

01.1.4.030.00

SET 'TO-LDG LT' (TAXI LIGHTS) SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	LANDING/TAXI LIGHT CONTROL SW	
	LANDING/TAXI LIGHT CONTROL SW	= OFF

01.1.4.031.00

SET 'WDSHLD RAIN REPEL' SWITCH TO CENTER (OFF) POSITION.

	CHECKLIST	= SEQUENCE
SET	WINDSHIELD RAIN REPELLENT SW	
	WINDSHIELD RAIN REPELLENT SW	= OFF

01.1.4.032.00

SET GSS MODE SELECTOR SWITCH TO 'SLAVED'.

	CHECKLIST	= SEQUENCE
SET	ROTARY SELECTOR SWITCH	
	ROTARY SELECTOR SWITCH	= SLAVED

01.1.4.033.00

SET 'LAT' ON GSS.

SET

CHECKLIST

= SEQUENCE

LAT SET MOVING SCALE KNOB

LAT SET MOVING SCALE KNOB

= TBD

01.1.4.034.00

SET GSS HEMISPHERE SELECTOR SWITCH.

SET

CHECKLIST

= SEQUENCE

LATITUDE SET SWITCH

LATITUDE SET SWITCH

= TBD

01.1.4.035.00

SET 'EMERG GEN' (EMERGENCY GENERATOR) SWITCH TO 'AUTO'.

SET

CHECKLIST

= SEQUENCE

EMERGENCY GENERATOR CONTROL SW

EMERGENCY GENERATOR CONTROL SW= AUTO

01.1.4.036.00

SET 'LDG GR ALTER' SWITCH TO 'NORM'.

SET

CHECKLIST

= SEQUENCE

ALTERNATE LANDING GEAR CONTROL

ALTERNATE LANDING GEAR CONTROL= NORM

01.1.4.037.00

CHECK FUEL 'DUMP' SWITCH TO 'OFF'.

CHECK

CHECKLIST

= SEQUENCE

DUMP SWITCH

DUMP SWITCH

= OFF

01.1.4.038.00

CHECK 'AERIAL REFUEL MODE' SWS (ORIDE AND REV) TO 'NORM'.

CHECK

CHECKLIST

= SEQUENCE

MODE SWITCH (OVERRIDE)
MODE SWITCH (REVERSE)

MODE SWITCH (OVERRIDE)
AND MODE SWITCH (REVERSE)

= NORM
= NORM

01.1.4.039.00

SET LN2 SWITCH TO 'LN2'.

	CHECKLIST	= SEQUENCE
SET	LN2 INERTING SWITCH	
	LN2 INERTING SWITCH	= LN2

01.1.4.040.00

SET FUEL 'XFEED' SWITCH TO 'CL' (CLOSED).

	CHECKLIST	= SEQUENCE
SET	CROSSFEED SWITCH	
	CROSSFEED SWITCH	= CL

01.1.4.041.00

SET APP FUEL FILL VALVES AND TRANSFER PUMPS SWs TO 'AUTO'*

	CHECKLIST	= SEQUENCE
SET	PWR-OFF FUEL VALVES AND PUMPS	
	PWR-OFF FUEL VALVES AND PUMPS	= AUTO

01.1.4.042.00

SET TFR MODE LAND SELECTOR SWITCHES TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-TFR	
	MODE SWITCH-TFR	= OFF

01.1.4.043.00

SET UHF #2 MODE SELECTOR-SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	FUNCTION SELECT SW-COPILOT	
	FUNCTION SELECT SW-COPILOT	= OFF

01.1.4.044.00

SET HF MODE SELECTOR SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	RADIO MODE SELECT SWITCH	
	RADIO MODE SELECT SWITCH	= OFF

01.1.4.045.00

SET TACAN MODE SELECTOR SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	MODE SELECTOR SWITCH-TACAN	
	MODE SELECTOR SWITCH-TACAN	= OFF

01.1.4.046.00

SET 'ILS' POWER SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	POWER SWITCH-ILS	
	POWER SWITCH-ILS	= OFF

01.1.4.047.00

SET UHF #1 MODE SELECTOR SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	FUNCTION SELECT SW-PILOT	
	FUNCTION SELECT SW-PILOT	= OFF

01.1.4.048.00

ADJUST IFR SCOPE POLAROID FILTER CONTROLS (2) TO 'FULL UP'.

	CHECKLIST	= SEQUENCE
ADJUST	UPPER POLAROID FILTER CONTROL	
	UPPER POLAROID FILTER CONTROL	= FULL UP

01.1.4.049.00

ADJUST IFR SCOPE TIMING CONTROLS (4)

	CHECKLIST	= SEQUENCE
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01.1.4.049.01

ADJUST THE CURSOR AND MEMORY IFR SCOPE TIMING CONTROLS

	CHECKLIST	= SEQUENCE
ADJUST	CURSOR CONTROL	
	MEMORY CONTROL	
	CURSOR CONTROL	= TBD
	AND MEMORY CONTROL	= TBD

01.1.4.049.02

ADJUST THE CONTRAST AND VIDEO IFR SCOPE TIMING CONTROLS

	CHECKLIST	= SEQUENCE
ADJUST	CONTRAST CONTROL-TF VIDEO CONTROL-TF	
	CONTRAST CONTROL-TF	= TBD
	AND VIDEO CONTROL-TF	= TBD

01.1.4.050.00

SET IFR SCOPE 'RANGE' SELECTOR KNOBS TO 'E'.

	CHECKLIST	= SEQUENCE
SET	RANGE SWITCH-TF	
	RANGE SWITCH-TF	= E

01.1.4.051.00

SET 'RADAR XPNDR' 'ENCODE'-'DECODE' AS BRIEFED AND PWR OFF.

	CHECKLIST	= SEQUENCE
SET	ENCODE SWITCH DECODE SWITCH POWER SELECT SWITCH	
	ENCODE SWITCH	= TBD
	AND POWER SELECT SWITCH	= OFF

01.1.4.052.00

SET IFF MASTER CONTROL KNOB TO 'STBY'.

	CHECKLIST	= SEQUENCE
SET	MASTER CONTROL SELECT SWITCH	
	MASTER CONTROL SELECT SWITCH	= STBY

OBJECTIVE:

PERFORM (POWER OFF) INTERIOR INSPECTION

1.5

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Exterior inspection performed by flight crew

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP perform (power off) interior inspection checks.
2. DSO performs (power off) interior inspection checks.

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the restraint harness control lever is located on the left side of the seat pan. The forward position locks the restraint harness inertial reel and the aft position unlocks it.
2. Recall that the quantity of oxygen on board the A/V is indicated in liters.
3. Recall how to determine whether the oxygen mask is suitable for flying.
4. Recall how to determine whether the communication leads in the A/V are properly inserted into the crewmember's personal equipment.
5. Recall that with the UHF-1/OFF/UHF-2 switch set to OFF an RBS (Radar Bomb Scoring) tone cannot be transmitted.
6. Recall that when the doppler power switch on the Auxiliary Panel is in OFF, the hard wired power control line is not grounded.
7. Recall that with the GNACU (General Navigation Avionics Control Unit) in DSBL no commands can be transmitted by the right EMUX (Electrical Multiplexer) to turn on the GNACU.
8. Recall that with the WDACU (Weapons Delivery Avionics Control Unit) in DSBL no commands can be transmitted by the left EMUX to turn on the WDACU.
9. Recall that with the INS (Inertial Navigation System) #1 switch in DSBL no commands can be transmitted by the right EMUX to turn on INS #1.
10. Recall that with the INS #2 switch in DSBL no commands can be transmitted by the left EMUX to turn on INS #2.

11. Recall that when the five SLU (Station Logic Unit) switches are set in DSBL no power commands can be provided to the ACU which, in turn, provides power control via EMUX to the SLUs.
12. Recall that the contrast control of the MFD (Multifunction Display) can provide a continuous variation of video signal amplitude.
13. Recall that the brightness control of the MFD can provide a continuous variation of video signal level.
14. Recall that with the BETA switch on the FLR (Forward Looking Radar) set on NORM, automatic control of depression angle GND AUTO or GND VEL modes will be available.
15. Recall that with the sweep switch on the FLR set to NORM, ground range in ground modes and slant range in air mode can be provided.
16. Recall that the video control on the FLR can vary the amplitude of the video signal applied to the radar scope.
17. Recall that the IF Gain control on the FLR will permit adjustment of receiver gain in the ground and beacon modes.
18. Recall that the range intensity rotary control on the FLR can be used to vary range cursor brightness.
19. Recall that with the display orientation switch on the FLR set to NORM the top of the CRT will be coincident with A/V ground track in GND VEL and GND AUTO modes.
20. Recall that the azimuth intensity rotary control on the FLR can be used to vary azimuth cursor brightness.
21. Recall that the STC (Sensitivity Time Control) amplitude rotary control on the FLR will allow equalization of the display intensity.
22. Recall that the STC slope rotary control on the FLR can be used to change the effective range of the amplitude control.
23. Recall that the CRT intensity rotary control on the FLR can vary the brightness of the radar scope sweep line and can adjust camera aperture to maintain a constant exposure level on the film.
24. Recall that the range rotary switch on the FLR can select one of six operating ranges.
25. Recall that the bezel rotary control on the FLR will vary bezel brightness.

ENABLING OBJECTIVES: (continued)

26. Recall that the range mark rotary control on the FLR can be used to vary slant range mark brightness.
27. Recall that the Test switch on the FLR can be used to verify whether specific lamps are good.
28. Recall that when the antenna tilt rotary control on the FLR is in the mechanical detent, the antenna will be set at the zero position.
29. Recall that the transmitter tune rotary control on the FLR can vary the modulator-receiver-transmitter frequency over its entire frequency range.
30. Recall that when the FLR photo switch is in OFF, the automatic capability is inoperative except the camera will run when a weapon is released.
31. Recall how to load the photo magazine into the FLR control panel.
32. Recall what should be written on the photo magazine.
33. Recall that when the mode switch on the FLR control panel is set to GND MAN, control of the range and azimuth cursors can be accomplished with the tracking handle.
34. Recall that when the AFC (Automatic Frequency Control) rotary switch on the FLR control panel is in AFC-1, the receiver will operate in the automatic frequency mode and in the frequency agility mode if the beacon mode is not selected.
35. Recall that when the five-position rotary mode switch on the FLR control panel is in OFF, the entire FLR system is de-energized.
36. Recall that when the PPC (Present Position Correction) on the FLR control panel is in OUT, the tracking handle will not re-position the FLR cursors and the ACU will not accept a FLR update.
37. Recall that when the circular polarization switch on the FLR control panel is in NORM, a horizontally polarized beam will be emitted in the ground modes or beacon mode and a vertical polarized beam in the air mode, except when beacon mode is selected simultaneously.
38. Recall that with the SLC (Side Lobe Cancellation) switch on the FLR control panel in OFF, neither interference when in a heavy jamming environment nor ground clutter when in air mode will be reduced.
39. Recall that when the FTC (Flight Control) /BCN (Beacon) switch on the FLR control panel is in OFF, both the FTC mode which will minimize jamming effects and the beacon modes are inoperative.

40. Recall that when the IKB (Integrated Keyboard) selector knob is set to MISN TAPE, mission data residing on the tape cassette in the DEU (Data Entry Unit) can be read into the ACU upon depressing the Load switch.
41. Recall that when the EVS (Electro-optical Viewing System) video select switch is set to OFF, all electrical power is removed from the MFD (Multi-Function Display) and the master power relay in the SLU (Station Logic Unit) cannot be energized, thereby eliminating power to the FLIR (Forward Looking Infrared).
42. Recall that when the EVS symbols switch is set to OFF, elevation and azimuth angle LOS (Line of Sight) symbology will not exist on the MFD video.
43. Recall that when the five-position mode switch on the FLIR control is in OFF, all power is removed from the FLIR.
44. Recall that when the precision bombing timer is in OFF the timer unit is completely deactivated and the time-to-go indicator will not be armed.
45. Recall that when the Conventional Safe/arm switch is in SAFE, the arming of conventional weapons is disabled.
46. Recall that with the nuclear UNLOCK/SAFE switch in SAFE all the racks with nuclear weapons are locked.
47. Recall that with the nuclear PA ENBL/SAFE switch in SAFE, none of the nuclear weapons can be armed.
48. Recall that with the nuclear PA/SAFE switch in the neutral position the manual prearming and safing of a selected store or combination of stores is not possible.
49. Recall that with the SEL/NORM jettison switch set to the normal position, a single selected store or group of stores cannot be jettisoned.
50. Recall that with the ALL/NORM jettison switch set to the normal position, all the stores cannot be jettisoned in the same period of time.
51. Recall that with the store power switch in the neutral position, neither monitor power for a gravity nuclear store or initialization power for a missile can be applied.
52. Recall which circuit breakers should be left out, until some later time, such as after the engines have been started.
53. Recall that when the CITS (Central Integrated Test Subsystem) mode switch is in OFF, all power is removed from the CITS panel.

ANCILLARY OBJECTIVES:

5.

OPERATOR: OSO

<u>TASK ELEMENTS:</u>	1.1.4.6	1.1.4.58	1.1.4.63.2	1.1.4.63.11	1.1.4.65.5
	1.1.4.7	1.1.4.59	1.1.4.63.3	1.1.4.63.12	1.1.4.66
	1.1.4.8	1.1.4.61	1.1.4.63.4	1.1.4.63.13	1.1.4.66.1
	1.1.4.9	1.1.4.61.1	1.1.4.63.5	1.1.4.64	1.1.4.66.2
	1.1.4.53	1.1.4.61.2	1.1.4.63.6	1.1.4.65	1.1.4.66.3
	1.1.4.54	1.1.4.62	1.1.4.63.7	1.1.4.65.1	1.1.4.66.4
	1.1.4.55	1.1.4.63	1.1.4.63.8	1.1.4.65.2	1.1.4.66.5
	1.1.4.56	1.1.4.63.1	1.1.4.63.9	1.1.4.65.3	1.1.4.66.6
	1.1.4.57		1.1.4.63.10	1.1.4.65.4	1.1.4.66.7

1.1.4.67	1.1.4.74.2
1.1.4.68	1.1.4.74.3
1.1.4.69	1.1.4.74.4
1.1.4.72	1.1.4.74.5
1.1.4.73	1.1.4.74.6
1.1.4.74	1.1.4.74.7
1.1.4.74.1	1.1.4.75
	1.1.4.76
	1.1.4.77

01.1.4.006.00

CHECK-CONNECT RESTRAINT HARNESS AND INERTIAL REEL*

	CHECKLIST	= SEQUENCE
CONNECT	RESTRAINT ASSY	
	RESTRAINT ASSY	= CONNECTED

01.1.4.007.00

CHECK OXYGEN SYSTEM

	CHECKLIST	= SEQUENCE
CHECK	DILUTER-PRESSURE DEMAND REGS	
	DILUTER-PRESSURE DEMAND REGS	= CHECKED

01.1.4.008.00

CHECK OXYGEN MASK*

	CHECKLIST	= SEQUENCE
CHECK	OXYGEN MASK	
	OXYGEN MASK	= CHECKED

01.1.4.009.00

CHECK COMMUNICATION LEADS

	CHECKLIST	= SEQUENCE
CHECK	COMMUNICATION LEADS	
	COMMUNICATION LEADS	= CHECKED

01.1.4.053.00

SET UHF SWITCH TO 'OFF'.*

	CHECKLIST	= SEQUENCE
SET	RBS UHF-1,UHF-2,OFF SWITCH	
	RBS UHF-1,UHF-2,OFF SWITCH	= OFF

01.1.4.054.00

SET DPLR PWR (DOPPLER POWER) SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	DOPPLER CONTROL	
	DOPPLER CONTROL	= OFF

01.1.4.055.00

SET GNACU SWITCH TO DISABLE.

	CHECKLIST	= SEQUENCE
SET	GN-DSBL SWITCH	
	GN-DSBL SWITCH	= DSBL

01.1.4.056.00

SET WDACU SWITCH TO 'DISABLE'.

	CHECKLIST	= SEQUENCE
SET	WD-DSBL SWITCH	
	WD-DSBL SWITCH	= DSBL

01.1.4.057.00

SET INS 1 SWITCH TO 'DISABLE'.

	CHECKLIST	= SEQUENCE
SET	INS1 DSBL SWITCH	
	INS1 DSBL SWITCH	= DSBL

01.1.4.058.00

SET INS 2 SWITCH TO 'DISABLE'.

	CHECKLIST	= SEQUENCE
SET	INS 2 DSBL SWITCH	
	INS 2 DSBL SWITCH	= DSBL

01.1.4.059.00

SET SLU PWR SWITCHES (5) TO 'DISABLE'.

	CHECKLIST	= SEQUENCE
SET	STATION LOGIC UNIT SWITCHES	
	STATION LOGIC UNIT SWITCHES	= DSBL

01.1.4.061.01

WIND TIMING CLOCK

CHECKLIST

= SEQUENCE

WIND

OSO CLOCK
DSO CLOCK

OSO CLOCK
AND DSO CLOCK

= WOUND
= WOUND

01.1.4.061.02

SET TIMING CLOCK

OSO CLOCK
AND DSO CLOCK

= WOUND
= WOUND

SET

OSO CLOCK
DSO CLOCK

OSO CLOCK
AND DSO CLOCK

= SET
= SET

01.1.4.062.00

ADJUST MFD CONTRAST AND BRIGHTNESS CONTROLS.

CHECKLIST

= SEQUENCE

ADJUST

CONTRAST CONTROL-MFD
BRIGHTNESS CONTROL

CONTRAST CONTROL-MFD
AND BRIGHTNESS CONTROL

= TBD*
= TBD

01.1.4.063.00

SET FLR (APQ-144) CONTROLS.*

	CHECKLIST	= SEQUENCE
SET	INDICATOR-RECORDER	

01.1.4.063.01

SET BETA SWITCH TO 'NORM'.

	CHECKLIST	= SEQUENCE
SET	BETA CONTROL	
	BETA CONTROL	= NORM

01.1.4.063.02

SET SWEEP SWITCH TO 'NORM'.

	CHECKLIST	= SEQUENCE
SET	SWEEP CONTROL	
	SWEEP CONTROL	= NORM

01.1.4.063.03

SET VIDEO - IF GAIN ROTARY KNOB TO MIDPOINT.*

	CHECKLIST	= SEQUENCE
SET	VIDEO CONTROL-FLR IF GAIN-FLR	
	VIDEO CONTROL-FLR	= MIDPOINT
	AND IF GAIN-FLR	= MIDPOINT

01.1.4.063.04

SET RANGE INTENSITY ROTARY KNOB TO MIDPOINT.

	CHECKLIST	= SEQUENCE
SET	RANGE INT CONTROL	
	RANGE INT CONTROL	= MIDPOINT

01.1.4.063.05

SET DISPLAY ORIENTATION SWITCH TO 'NORM'.

	CHECKLIST	= SEQUENCE
SET	NORTH-NORMAL SELECT	
	NORTH-NORMAL SELECT	= NORM

01.1.4.063.06

SET AZIMUTH CURSOR INTENSITY CONTROL AT MIDPOINT.

	CHECKLIST	= SEQUENCE
SET	AZIMUTH INT CONTROL	
	AZIMUTH INT CONTROL	= MIDPOINT

01.1.4.063.07

SET STC (SENSITIVE TIME CONTROL) SWITCH TO 'OFF'.*

	CHECKLIST	= SEQUENCE
SET	AMPL-OFF CONTROL	
	SLOPE CONTRON	
	AMPL-OFF CONTROL	= OFF
	AND SLOPE CONTRON	= OFF

01.1.4.063.08

SET CRT INTENSITY CONTROL TO 'FULL CCW'.

	CHECKLIST	= SEQUENCE
SET	CRT INT CONTROL	
	CRT INT CONTROL	= FULL CCW

01.1.4.063.09

SET RANGE SELECT ROTARY CONTROL TO '7.5/2.5' NM DETENT.

	CHECKLIST	= SEQUENCE
SET	RANGE SWITCH-FLR	
	RANGE SWITCH-FLR	= 7.5-2.5

01.1.4.063.10

SET BEZEL AND RANGE MARK BRIGHTNESS CONTROLS AT MIDPOINT.

	CHECKLIST	= SEQUENCE
SET	BEZEL CONTROL	
	BEZEL CONTROL	= MIDPOINT
	AND RANGE MARK CONTROL	= MIDPOINT

01.1.4.063.11

SET LAMP TEST SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	TEST SWITCH-IND-REC	
	TEST SWITCH-IND-REC	= OFF

01.1.4.063.12

SET ANTENNA TILT CONTROL TO DETENT POSITION.

	CHECKLIST	= SEQUENCE
SET	ANTENNA TILT CONTROL	
	ANTENNA TILT CONTROL	= DETENT

01.1.4.063.13

SET XMIT (TRANSMITTER) TUNE CONTROL TO MIDPOINT.

	CHECKLIST	= SEQUENCE
SET	XMTR TUNE CONTROL	
	XMTR TUNE CONTROL	= MIDPOINT

01.1.4.064.00

SET FLR PHOTO SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	PHOTO CONTROL	
	PHOTO CONTROL	= OFF

01.1.4.065.00

REMOVE-ANNOTATE-INSTALL PHOTO MAGAZINE DATA PLATE.*

	CHECKLIST	= SEQUENCE
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01.1.4.065.01

REMOVE PHOTO MAGAZINE

	CHECKLIST	= SEQUENCE
REMOVE	PHOTO MAGAZINE DATA PLATE	
	PHOTO MAGAZINE DATA PLATE	= REMOVED

01.1.4.065.02

ANNOTATE PHOTO MAGAZINE

ANNOTATE

PHOTO MAGAZINE DATA PLATE	= REMOVED
PHOTO MAGAZINE DATA PLATE	
PHOTO MAGAZINE DATA PLATE	= ANNOTATED

01.1.4.065.03

WIND PHOTO MAGAZINE CLOCK

WIND

PHOTO MAGAZINE DATA PLATE	= ANNOTATED
PHOTO MAGAZINE CLOCK	
PHOTO MAGAZINE CLOCK	= WOUND

01.1.4.065.04

SET PHOTO MAGAZINE CLOCK

SET

PHOTO MAGAZINE CLOCK	= WOUND
PHOTO MAGAZINE CLOCK	
PHOTO MAGAZINE CLOCK	= SET

01.1.4.065.05

REINSTALL PHOTO MAGAZINE

INSERT

PHOTO MAGAZINE CLOCK	= SET
PHOTO MAGAZINE DATA PLATE	
PHOTO MAGAZINE DATA PLATE	= REINSTALLED

01.1.4.066.00

SET RADAR CONTROL PANEL.*

SET CHECKLIST = SEQUENCE
FLR CONTROL PANEL

01.1.4.066.01

SET DETENTED MODE SWITCH TO 'GND MANUAL'.

SET CHECKLIST = SEQUENCE
MODE SWITCH-RADAR SET
MODE SWITCH-RADAR SET = GND MAN

01.1.4.066.02

SET FREQ DETENTED CONTROL TO 'AFC-1'.

SET CHECKLIST = SEQUENCE
AFC-MFC CONTROL
AFC-MFC CONTROL = AFC-1

01.1.4.066.03

SET FUNCTION SWITCH TO 'OFF'.

SET CHECKLIST = SEQUENCE
MODE SWITCH-RADAR SET-2
MODE SWITCH-RADAR SET-2 = OFF

01.1.4.066.04

SET PRESENT POSITION CORRECTION SWITCH TO 'OUT'.

SET CHECKLIST = SEQUENCE
PRESENT POSITION CORRECTION SW
PRESENT POSITION CORRECTION SW = OUT

01.1.4.066.05

SET VERT POLARIZATION SWITCH TO 'NORM'.

	CHECKLIST	= SEQUENCE
SET	CIR-NORM (POLARIZATION) SWITCH	
	CIR-NORM (POLARIZATION) SWITCH= NORM	

01.1.4.066.06

SET SLC (SIDE LOBE CANCELLATION) SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	SIDE LOBE CANCELLATION CONTROL	
	SIDE LOBE CANCELLATION CONTROL= OFF	

01.1.4.066.07

SET FTC (FLIGHT CONTROL) BCN (BEACON) SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	FTC-BCN SWITCH	
	FTC-BCN SWITCH	= OFF

01.1.4.067.00

SET IKB (INTEG KYBD) SELECTOR KNOB TO 'MISN TAPE'.

	CHECKLIST	= SEQUENCE
SET	ACU DATA TRANSFER CONTROL	
	ACU DATA TRANSFER CONTROL	= MISN TAPE

01.1.4.068.00

SET EVS VIDEO SELECT SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	VIDEO SELECT SWITCH	
	VIDEO SELECT SWITCH	= OFF

01.1.4.069.00

SET EVS SYMBOLS SWITCH TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	SYMBOLS SWITCH	
	SYMBOLS SWITCH	= OFF

01.1.4.072.00

SET FLIR CONTROL MODE SELECT DETENTED ROTARY KNOB TO 'OFF'.

	CHECKLIST	= SEQUENCE
SET	MODE SELECT SWITCH-FLIR	
	MODE SELECT SWITCH-FLIR	= OFF

01.1.4.073.00

SET BOMB TIMER POWER SWITCH TO 'OFF'.

	BOMB TIMER POWER SWITCH	= OFF
SET	BOMB TIMER POWER SWITCH	
	POWER CONTROL	= OFF

01.1.4.074.00

SET SMS PANEL SWITCHES.

	CHECKLIST	= SEQUENCE
SET	STORES MANAGEMENT PANEL	

01.1.4.074.01

SET CONV ARM (CONVENTIONAL ARMING) SWITCH TO 'SAFE'.

	CHECKLIST	= SEQUENCE
SET	ARM-SAFE TOGGLE SWITCH	
	ARM-SAFE TOGGLE SWITCH	= SAFE*

01.1.4.074.02

SET NUCLEAR ARMING TOGGLE SWITCH TO 'SAFE'.

	CHECKLIST	= SEQUENCE
SET	NUCLEAR RACK CONTROL SWITCH	
	NUCLEAR RACK CONTROL SWITCH	= SAFE*

01.1.4.074.03

SET NUCLEAR PREARM ENABLE SWITCH TO 'SAFE'.

	CHECKLIST	= SEQUENCE
SET	NUCLEAR PREARM ENABLE SWITCH	
	NUCLEAR PREARM ENABLE SWITCH	= SAFE*

01.1.4.074.04

SET PREARM-SAFING PA-SAF SWITCH TO 'NEUTRAL'.

	CHECKLIST	= SEQUENCE
SET	PA-SAFE SWITCH	
	PA-SAFE SWITCH	= NEUTRAL

01.1.4.074.05

SET JETTISON CONTROL TOGGLE SWITCH TO 'NORM'.

	CHECKLIST	= SEQUENCE
SET	SEL-NORM SWITCH	
	SEL-NORM SWITCH	= NORM*

01.1.4.074.06

SET JETTISON CONTROL TOGGLE SWITCH TO 'NORM'.

	CHECKLIST	= SEQUENCE
SET	ALL-NORM SWITCH	
	ALL-NORM SWITCH	= NORM*

01.1.4.074.07

SET ST PWR (STORE POWER) SWITCH TO 'NEUTRAL'.

	CHECKLIST	= SEQUENCE
SET	STORE POWER SWITCH	
	STORE POWER SWITCH	= NEUTRAL

01.1.4.075.00

CHECK CIRCUIT BREAKERS TO 'IN' POSITION.

	CHECKLIST	= SEQUENCE
CHECK	OSO CIRCUIT BREAKERS	
	OSO CIRCUIT BREAKERS	= IN

01.1.4.076.00

CHECK CITS CONTROL PANEL TO 'OFF'.

	CHECKLIST	= SEQUENCE
CHECK	OSO CITS ADVISORY LIGHT	
	OSO CITS ADVISORY LIGHT	= OFF

01.1.4.077.00

REPORT 'READY FOR PWR ON' TO PILOT.

REPORT

CHECKLIST

= SEQUENCE

OSO INTERPHONE SWITCH

OSO ICS

= RDY FOR PWR ON*

OBJECTIVE: PERFORM (POWER ON) INTERIOR INSPECTION

1.6

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Interior inspection (power off) performed by flight crew

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO performs (power on) interior inspection checks
2. DSO performs (power on) interior inspection checks

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that with the battery switch in AUTO/ON each battery is connected to its battery bus providing power for APU starting, fire warning and extinguishing, and other systems requiring dc power prior to A/V starting.
2. Recall which circuit breakers should be left out until some later time such as after the engines have been started.
3. Recall that depressing the fire detection test switch will illuminate all twelve LOOP A and LOOP B lights when the loop selector switches are in NORM.
4. Recall that when the APU mode switches are set to START they are held in that position until ignition-start has taken place.
5. Recall that the Voltage/Frequency rotary switch provides for the selection of a generator for a readout of voltage and frequency on adjacent gages.
6. Recall that the intensity of the two floodlights are controlled by rotary switches labeled INST and OVHD and PED and SIDE CSL.
7. Recall that depressing the hydraulic quantity indicator test push-button will drive the indicator pointers counterclockwise.
8. Recall that the hydraulic pressure gage pointers should indicate at the 9 o'clock position for normal operation.

ENABLING OBJECTIVES: (continued)

9. Recall that by turning the rudder pedal adjustment handle 90 degrees clockwise unlocks the adjusting mechanism allowing the pilots to move to the desired position prior to control handle release.
10. Recall that when the ICS switch knob is pulled intercom transmissions are possible.
11. Recall that by rotating the ICS switch clockwise turns the reception on and increments the receive volume in discrete steps.
12. Recall that when the test pushbutton on the ICS control panel is depressed the input and output amplifiers are tested by emitting an aural tone through the headsets.
13. Recall which caution and/or warning lights are normally illuminated prior to starting the A/V engines.
14. Recall that when the UHF master switch is turned to MAIN the normal operation of the radio receiver/transmitter is selected but the guard receiver is off.
15. Recall that the UHF radios have 20 preset channels that are selected by the preset channel selector knob.
16. Recall that the manual frequency selectors control the readout of the channel selected.
17. Recall that in the T/R position both the receiver and transmitter of the TACAN are operative.
18. Recall that the CHAN switches on the TACAN control panel permit the selection of 126 TACAN transmit channels.
19. Recall that when the ILS is turned on power is applied to both receivers.
20. Recall that the ILS frequency selector knobs allow for individual selection of 40 channels.
21. Recall that when the radar altimeter panel switch is turned to "1 or 2" both altimeters will be powered with one radiating and one blanked.
22. Recall that when the mode switch on the CSSC (Coded Switch Set Controller) is positioned to OPERATE, the CSSC operation cycle is initiated.

ENABLING OBJECTIVES: (continued)

23. Recall that steady CODE and DISABLE lights indicate transmittal of a valid sum check code.
24. Recall that with the flight director mode switch set to TACAN steering commands will result in the A/V intercepting and maintaining the ground course selected on the horizontal situation indicator.
25. Recall that with the anti-collision light switch set to OFF no electrical power is available to the tail and the two wing mounted strobe light assemblies.
26. Recall that with the external position light switch in BRT full rated voltage is provided to the seven position lights.
27. Recall that when the annunciator lamp test switch is held in bright or dim all annunciators and solenoid flag displays will operate continuously except for the main caution panel. On this panel the annunciator on each half of the panel will illuminate sequentially for 5 seconds.
28. Recall that the integral bright/dim switch is used to select the intensity of the caution lights.
29. Recall that with the integral switch set to STDY COMP lighting is available to the standby compass.
30. Recall that with the integral switch set to α , lighting of the tape AOA (Angle-of-Attack) can be controlled by the pilot or copilot alpha indicator and primary flight instrument control.
31. Recall that the AFCS and INDEXER rotary switch controls the intensity of the advisory lights within the AFCS pushbuttons and the angle-of-attack indexer lights.
32. Recall that the inside switch of the OVAD/PED integral lighting switch controls the integral lighting of the overhead panel.
33. Recall that the outside switch of the OVHD/PED integral lighting switch controls the integral lighting of the center pedestal.
34. Recall that depressing the fire detection switch will illuminate the FIRE DETR annunciator on the flight station caution panel and the MASTER CAUTION lights along with the twelve LOOP A and LOOP B lights. Also, the aural warning tone will sound.
35. Recall that when the fire detection lights are released all lights will go out and the aural warning tone will stop.

ENABLING OBJECTIVES: (continued)

36. Recall that when the emergency generator switch is turned to ON the hydraulically-driven emergency generator is started and the essential bus is energized.
37. Recall that the Voltage/Frequency rotary switch on the electrical panel must be set at EMERG to read voltage and frequency on the adjacent gages.
38. Recall that setting the fire warning and extinguishing circuit test switch to TEST will illuminate both APU's and the four engine fire switchlights. Also, the master aural warning tone will sound.
39. Recall that holding the fuel and CG test switch to up or down will run the tapes of all fuel quantity, total fuel quantity, digital fuel quantity and center of gravity indicators to up or down corresponding to the switch position.
40. Recall that the select tank rotary switch is used to select the tank quantities to be read on the digital displays.
41. Recall that when the oxygen quantity test pushbutton is depressed and held down, the indicator needle will rotate counterclockwise to zero and the oxygen low caution and both master caution lights will illuminate.
42. Recall that the wing sweep handles are mechanically interconnected and operate with a sliding friction force.
43. Recall that when the slats indicator displays EXD, the slats are in the completely extended position.
44. Recall that movement of the FLAP/SLAT handle 10 degrees to the gate detent will extend the slats and leave the flaps full up.
45. Recall that to bypass the gate detent, a small finger-operated lever on the control handle must be raised.
46. Recall that movement of the FLAP/SLAT control handle off of the gate detent provides flap extension proportional to handle position.
47. Recall that the flap position indicator ranges from UP to full DOWN which corresponds to zero and 40 degrees of flap travel.
48. Recall that the stabilizer position indicator provides for readings from 25 degrees of up elevator to 10 degrees of down elevator.
49. Recall that the rudder position indicator provides for readings from 25 degrees right to 25 degrees left rudder displacement.

50. Recall that when the flight control stick is moved laterally the horizontal stabilizers will move asymmetrically and the outboard spoilers will deflect upward on the side that the stabilizers move trailing edge up.
51. Recall that standby pitch trim may be accomplished by either forward or aft movement of the STBY PITCH switches on the flight control trim panels after the pitch trim switch on the flight control power panel has been placed in STBY.
52. Recall that actuation of the standby pitch trim will be reflected on the horizontal stabilizer position indicator by symmetrical movement of the pointers.
53. Recall that alternate trim is accomplished by setting the pitch, roll and yaw trim switches on the flight control power panel to ALTER and actuating the trim controls in the normal manner.
54. Recall that normal trimming is accomplished with the pitch, roll and yaw trim switches on the flight control power panel set to NORM.
55. Recall that normal or alternate pitch and roll trim is accomplished by the appropriate movement of the "coolie-hat" switch on the flight control sticks.
56. Recall that normal or alternate yaw trim is accomplished by right or left movement of the yaw trim switch on the flight control trim panels.
57. Recall that the trim for takeoff light illuminates when the primary control surfaces are in proper position, the spoilers are closed and the pitch trim power switch is not in STBY.
58. Recall that moving the speedbrake switch on the flight control power panel to ALTER allows operation of the speedbrakes using the primary speedbrake control but with an alternate power source.
59. Recall that when either speedbrake switch is moved to OUT, all eight spoiler indicators will show "UP" on the surface indicator panel.
60. Recall that when either speedbrake switch is moved to IN, all eight spoiler indicators on the surface indicator panel will show blank after the spoilers are fully retracted.
61. Recall that when the command value is in view, the command airspeed marker is superimposed over the commanded value on the airspeed moving scale and tracks that value.
62. Recall that when the command value is in view, the command Mach marker is superimposed over the commanded value on the Mach number moving scale and tracks that value.

63. Recall that when the command value is in view, the command sensitive altitude scale marker is superimposed over the command value on the sensitive altitude scale and tracks that value.
64. Recall that a zero pitch trim is displayed when the index arrow on the pitch trim knob is pointing to the pitch trim index dot.
65. Recall that when the TFR mode switches are placed in STBY power is applied to the channels for warmup.
66. Recall that when the radar altimeter channel selector is set to "1", RA (Radar Altimeter) 1 is operating and RA 2 is off.
67. Recall that the self-test valid light indicates the RA altitude signal is within the 100 ± 10 foot limit set to assure instrument validity.
68. Recall that when the radar altimeter channel selector is set to "2", RA 2 is operating and RA 1 is off.
69. Recall that when the radar altimeter channel selector is set to "1 or 2", both RA's are on with one tracking and the other blanked.
70. Recall what the proper presentation on the TFR indicator is like when the A/V is being checked out on the ground.

ANCILLARY OBJECTIVES:

1. Recall that the failure of a LOOP A or LOOP B light to illuminate, after a successful annunciator light test, indicates an "open" or faulty short discrimination circuit.
2. Recall that to select a good fire detection loop the corresponding selector switch must be moved toward the illuminated loop light.
3. Recall that the APU mode switches will automatically move to the RUN position after ignition-start has taken place.
4. Recall that the APU's will continue to run until one of the self-contained APU parameter sensors initiate an automatic shutdown or the switches are placed in OFF or the APU STOP switch in the wheel well is depressed.
5. Recall that the Voltage/Frequency rotary switch also provides for the selection of a bus or battery power source for a readout of voltage on the adjacent voltmeter.
6. Recall that the two floodlights also serve as THUNDERSTORM LIGHTS.

ANCILLARY OBJECTIVES: (continued)

7. Recall that the lack of counterclockwise motion during testing of the hydraulic quantity gages denotes a faulty indicator.
8. Recall that if the hydraulic fluid level in systems 1 and 4 falls below 6 gallons or below 11 gallons in systems 2 and 3, the hydraulic caution light will illuminate.
9. Recall that if any of the systems pressures fall below 2150 PSI, the hydraulic caution light will illuminate.
10. Recall that the CODE light will illuminate steady at the end of an operate cycle to indicate that the CSSC has transmitted a valid enable or sum check code to the code enabling switch.
11. Recall that steady CODE and ENABLE lights on the CSSC indicate transmittal of one of the six correct enable codes stored.
12. Recall that no light indications on the CSSC indicate transmittal of a wrong code.
13. Recall that the lack of illumination of any caution light by the annunciator test switch indicates a faulty light and not a faulty sensing system.
14. Recall that the aisle lights will automatically come on when the alert start switch on the nose gear door strut has been depressed.
15. Recall that when the emergency generator feeds the essential bus the electrical contacts from the engine-driven generators to the essential bus are opened.
16. Recall that the emergency generator advisory light is illuminated whenever the emergency generator is either manually or automatically energized to feed the essential bus. The light will remain on until the emergency generator goes off.
17. Recall that a single selection of the fuel tank rotary switch causes simultaneous displays of sequence pair fuel tank quantities in the digital readouts.
18. Recall that the select tank switch is arranged in the normal order of fuel depletion: ST BAY FWD & INTMD, FUS 2 & 3, WGL & R, FUS 1 & 4, MAIN L & R.
19. Recall that the oxygen low caution light will illuminate flashing whenever the breathing oxygen pressure falls below 42 PSIG, the indicator test switch is depressed or the quantity in both oxygen converters goes to 2 liters.

ANCILLARY OBJECTIVES: (continued)

20. Recall that the wing sweep subsystem is interlocked with the flaps so that with the flaps down, the wings cannot be swept aft beyond the 20 degree position.
21. Recall that the COMMAND INDEX MARKER on the wing sweep position indicator is actuated by a torque synchro system that is connected to the wing sweep handles.
22. Recall that the moving pointer on the wing sweep position indicator is actuated by a torque synchro system that provides actual wing position.
23. Recall that as the wings move to the selected position, the moving pointer moves toward the COMMAND INDEX MARKER and becomes coincident with it when the wings have moved to the selected position.
24. Recall that the barberpole on the slats position indicator is displayed when the slats are in transit or if there is a malfunction in the slats indicating system.
25. Recall that the flap position indicator gradations are provided at each one-quarter position.
26. Recall that the left and right horizontal stabilizer indicators have separate torque synchro systems that provide separate and independent readings from each side.
27. Recall that the spoiler indicators will change from blank to UP as soon as the spoilers move out of the fully retracted positions.
28. Recall that in the standby mode, pitch trim directs nose-down and nose-up inputs in proportion to the time the control is held.
29. Recall that in the alternate mode, yaw trim displaces the rudders in proportion to the length of time the switch is held.
30. Recall that if the selected command value is not in view on the airspeed moving scale, the command airspeed marker assumes a position in view at the scale extremity.
31. Recall that if the selected command value is not in view on the Mach number moving scale, the command Mach number marker assumes a position in view at the scale extremity.
32. Recall that the current barometric pressure set in with the baro-set knob is transmitted to the Air Data Computer so the altitude displayed on the AVVI is the correct altitude above mean sea level.

ANCILLARY OBJECTIVES: (continued)

33. Recall that if the selected command value is not in view on the sensitive altitude scale, the sensitive altitude scale command marker assumes a position in view at the scale extremity.
34. Recall that after initial systems warmup is accomplished in the "1 or 2" position switching back to check RA 1 or forward to check RA 2 does not recycle the warmup period of the selected radar altimeter.
35. Recall that when the radar altimeter channel selector is set to "1 or 2" and the tracking RA loses track, the other RA automatically locks on and begins tracking.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>			
1.1.5.1	1.1.5.27	1.1.5.45.1	
1.1.5.2	1.1.5.28	1.1.5.45.2	
1.1.5.3	1.1.5.29	1.1.5.45.3	
1.1.5.3.1	1.1.5.30	1.1.5.45.4	
1.1.5.3.2	1.1.5.31	1.1.5.46	
1.1.5.4	1.1.5.32	1.1.5.46.1	
1.1.5.5	1.1.5.33	1.1.5.46.2	
1.1.5.6	1.1.5.33.1	1.1.5.46.3	
1.1.5.6.1	1.1.5.33.2	1.1.5.46.4	
1.1.5.6.2	1.1.5.34	1.1.5.46.5	
1.1.5.6.3	1.1.5.34.1	1.1.5.46.6	
1.1.5.7	1.1.5.34.2	1.1.5.47	
1.1.5.8	1.1.5.35	1.1.5.47.1	
1.1.5.9	1.1.5.36	1.1.5.47.2	
1.1.5.10	1.1.5.36.1	1.1.5.48	
1.1.5.11	1.1.5.36.2	1.1.5.49	
1.1.5.11.1	1.1.5.37	1.1.5.50	
1.1.5.11.2	1.1.5.37.1	1.1.5.50.1	
1.1.5.11.3	1.1.5.38	1.1.5.50.2	
1.1.5.12	1.1.5.39	1.1.5.50.3	
1.1.5.13	1.1.5.40	1.1.5.50.4	
1.1.5.14	1.1.5.41	1.1.5.69	
1.1.5.15	1.1.5.42	1.1.5.70	
1.1.5.16	1.1.5.43	1.1.5.70.1	
1.1.5.17	1.1.5.43.1	1.1.5.70.2	
1.1.5.18	1.1.5.43.2	1.1.5.70.3	
1.1.5.22	1.1.5.44	1.1.5.71	
1.1.5.23	1.1.5.44.1		
1.1.5.24	1.1.5.44.2		
1.1.5.25	1.1.5.44.3		
1.1.5.26	1.1.5.45		

01.1.5.001.00

SET BATT SWITCH TO 'AUTO ON'

SET

CHECKLIST

= SEQUENCE

BATTERY SELECT SWITCH

BATTERY SELECT SWITCH

= AUTO ON

01.1.5.002.00

VISUALLY CHECK CIRCUIT BREAKERS ARE PROPERLY POSITIONED*

CHECK

CHECKLIST

= SEQUENCE

LEFT CIRCUIT BREAKERS
RIGHT CIRCUIT BREAKERS

LEFT CIRCUIT BREAKERS
AND RIGHT CIRCUIT BREAKERS

= IN
= IN

01.1.5.003.00

DEPRESS FIRE DETR BUTTON TO CHECK APU AND ENGINE FIRE LOOPS*

DEPRESS

CHECKLIST

= SEQUENCE

FIRE DETR TEST SW (PUSHBUTTON)

FIRE DETR TEST SW (PUSHBUTTON)= DEPRESSED

01.1.5.003.01

CHECK L AND R APU LOOPS A AND B FIRE DETECTION LIGHTS

CHECK

FIRE DETR TEST SW (PUSHBUTTON)= DEPRESSED

APU LOOP A LIGHT
APU LOOP B LIGHT

APU LOOP A LIGHT
AND APU LOOP B LIGHT

= ON
= ON

01.1.5.003.02

CHECK ENGINES LOOPS A AND B FIRE DETECTION LIGHTS

CHECK

FIRE DETR TEST SW (PUSHBUTTON)= DEPRESSED

ENGINE-ADG LOOP A FIRE LIGHTS
ENGINE-ADG LOOP B FIRE LIGHTS

ENGINE-ADG LOOP A FIRE LIGHTS = ON
AND ENGINE-ADG LOOP B FIRE LIGHTS = ON

01.1.5.004.00

OBSERVE IF GROUND CREW IS READY FOR APU START

	CHECKLIST	= SEQUENCE
OBSERVE	WINDSHIELD - LEFT	
	WINDSHIELD - LEFT	= OBSERVED*

01.1.5.005.00

SET MOMENTIARILY APU MODE SWITCHES TO 'START'

	WINDSHIELD - LEFT	= OBSERVED
SET	MODE SWITCHES	
	MODE SWITCHES	= START
	AND APU EXH TEMP GAGE	= RISING

01.1.5.006.00

SET 'VOLTAGE-FREQ' SELECTOR TO EACH GEN AND CHECK

	VOLTAGE/FREQ SELECTOR SWITCH	= BUS 2
	AND FREQUENCY METER	= TBD
SET	VOLTAGE/FREQ SELECTOR SWITCH	

01.1.5.006.01

SET 'VOLTAGE-FREQ' SELECTOR TO 'NO.1 GEN' AND CHECK

	VOLTAGE/FREQ SELECTOR SWITCH	= BUS 2
	AND FREQUENCY METER	= TBD
SET	VOLTAGE/FREQ SELECTOR SWITCH	
	VOLTAGE/FREQ SELECTOR SWITCH	= GEN 1
	AND FREQUENCY METER	= TBD

01.1.5.006.02

SET 'VOLTAGE-FREQ' SELECTOR TO 'NO.2 GEN' AND CHECK

	VOLTAGE/FREQ SELECTOR SWITCH	= GEN 1
	AND FREQUENCY METER	= TBD
SET	VOLTAGE/FREQ SELECTOR SWITCH	
	VOLTAGE/FREQ SELECTOR SWITCH	= GEN 2
	AND FREQUENCY METER	= TBD

01.1.5.006.03

SET 'VOLTAGE-FREQ' SELECTOR TO 'NO.3 GEN' AND CHECK*

VOLTAGE/FREQ SELECTOR SWITCH = GEN 2
AND FREQUENCY METER = TBD

SET

VOLTAGE/FREQ SELECTOR SWITCH

VOLTAGE/FREQ SELECTOR SWITCH = GEN 3
AND FREQUENCY METER = TBD

01.1.5.007.00

ADJUST FLIGHT STATION FLOODLIGHT INTENSITY TO DESIRED LEVEL

VOLTAGE METER = TBD
AND FREQUENCY METER = TBD

ADJUST

FLOODLIGHTS

FLOODLIGHTS = TBD

01.1.5.008.00

DEPRESS 'HYD QTY TEST' BUTTON TO CHECK HYD QTY GAGES

CHECKLIST = SEQUENCE

DEPRESS

HYDRAULIC INDICATOR TEST

HYDRAULIC INDICATOR TEST = DEPRESSED*
AND HYDRAULIC QUANTITY INDICATORS = 0

01.1.5.009.00

CHECK THAT HYDRAULIC PRESSURES ARE WITHIN LIMITS*

CHECKLIST = SEQUENCE

CHECK

HYDRAULIC PRESSURE INDICATORS

HYDRAULIC PRESSURE INDICATORS = TBD*

01.1.5.010.00

ADJUST SEAT AND RUDDER PEDALS

CHECKLIST = SEQUENCE

ADJUST

SEATS
RUDDER PEDAL ADJ HANDLES

SEATS = ADJUSTED
AND RUDDER PEDAL ADJ HANDLES = ADJUSTED

01.1.5.011.00

SET AND TEST ICS (INTERCOM SYSTEM) CONTROL

	CHECKLIST	= SEQUENCE
SET	INTERCOMS	
	INTERCOMS	= TBD

01.1.5.011.01

PULL ICS CONTROL AND SET VOLUME AS DESIRED

	CHECKLIST	= SEQUENCE
SET	ICS VOLUME	
	ICS VOLUME	= SET

01.1.5.011.02

DEPRESS ICS TEST PUSHBUTTON

	CHECKLIST	= SEQUENCE
DEPRESS	TEST SWITCHES-ICS	
	HEADSETS	= SIDE TONE

01.1.5.011.03

EACH CREWMEMBER REPORTS 'ICS READY'

	CHECKLIST	= SEQUENCE
COMMUNICATE	INTERCOM	
	INTERCOM	= 'ICS READY'*

01.1.5.012.00

CHECK VISUALLY SYSTEMS CAUTION AND WARNING LIGHTS

	CHECKLIST	= SEQUENCE
CHECK	CAUTION-WARNING LIGHTS	
	CAUTION-WARNING LIGHTS	= ACCEPTABLE*

01.1.5.013.00

SET UHF 1 MASTER SWITCH TO 'MAIN' AND SET CHANNEL AS DESIRED

	CHECKLIST	= SEQUENCE
SET	FUNCTION SELECT SW-PILOT	
	PRESET CHANNEL SELECTOR-PILOT	
	FUNCTION SELECT SW-PILOT	= MAIN
	AND PRESET CHANNEL SELECTOR-PILOT	= TBD

01.1.5.014.00
SET UHF 2 MASTER SWITCH TO 'MAIN' AND SET CHANNEL AS DESIRED

	CHECKLIST	= SEQUENCE
SET	FUNCTION SELECT SW-COPILOT PRESET CHANNEL SELECTOR-COP	
	FUNCTION SELECT SW-COPILOT AND PRESET CHANNEL SELECTOR-COP	= MAIN = TBD

01.1.5.015.00
SET TACAN SWITCH TO 'IR' AND SET CHANNEL AS DESIRED

	CHECKLIST	= SEQUENCE
SET	MODE SELECTOR SWITCH-TACAN CHANNEL SELECTOR-TACAN	
	MODE SELECTOR SWITCH-TACAN AND CHANNEL SELECTOR-TACAN	= T-R = TBD

01.1.5.016.00
SET ILS SWITCH TO 'ON' AND SET FREQUENCY AS DESIRED*

	CHECKLIST	= SEQUENCE
SET	POWER SWITCH-ILS FREQUENCY SELECT KNOBS	
	POWER SWITCH-ILS AND FREQUENCY SELECT KNOBS	= PWR = TBD

01.1.5.017.00
SET RADAR ALTIMETER MODE SWITCH TO '1 OR 2' POSITION*

	CHECKLIST	= SEQUENCE
SET	CHANNEL SELECTOR SWITCH	
	CHANNEL SELECTOR SWITCH	= 1 OR 2

01.1.5.018.00
PERFORM OPERATIONAL TEST CHECK ON CODED SW SET CONTROLLER

	CHECKLIST	= SEQUENCE
SET	OPERATE; MONITOR SWITCH	
	OPERATE; MONITOR SWITCH AND DISENABLE INDICATOR	= OPERATE* = ON

01.1.5.022.00

SET FLT DIR MODE SWITCHES TO 'TACAN'

	CHECKLIST	= SEQUENCE
SET	FLT DIR MODE SWITCH-PILOT FLT DIR MODE SWITCH-COPILOT	
	FLT DIR MODE SWITCH-PILOT AND FLT DIR MODE SWITCH-COPILOT	= TACAN = TACAN

01.1.5.023.00

SET COMMAND COURSE AND HEADING INTO HSI

	CHECKLIST	= SEQUENCE
SET	COURSE SET KNOB HEADING SET KNOB	
	COURSE SET KNOB AND HEADING SET KNOB	= TBD = TBD

01.1.5.024.00

SET ANTI CLSN SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	ANTI-COLLISION CONTROL SWITCH	
	ANTI-COLLISION CONTROL SWITCH	= OFF

01.1.5.025.00

SET EXT POSITION LIGHT SWITCHES (2) TO 'BRT AND FLASH'

	CHECKLIST	= SEQUENCE
SET	POSITION LIGHT SWITCH POSITION LIGHT MODE SWITCH	
	POSITION LIGHT SWITCH AND POSITION LIGHT MODE SWITCH	= BRT = FLASH

01.1.5.026.00

SET ANNUNCIATOR LAMP BRI-DIM TEST SWITCH*

	CHECKLIST	= SEQUENCE
SET	ANNUNCIATOR TEST SWITCH	
	ANNUNCIATOR TEST SWITCH	= BRT
	AND ANNUNCIATOR TEST SWITCH	= DIM

01.1.5.027.00

SET BRI-DIM INTEGRAL SWITCH TO 'BRT' OR 'DIM' AS DESIRED

	CHECKLIST	= SEQUENCE
SET	BRI-DIM INTEGRAL SWITCH	
	BRT-DIM INTEGRAL SWITCH	= BRT
	OR BRI-DIM INTEGRAL SWITCH	= DIM

01.1.5.028.00

SET INTEGRAL LIGHT SWITCHES (2) TO 'STBY COMP AND ALPHA'*

	CHECKLIST	= SEQUENCE
SET	STANDBY COMPASS LIGHT CONTROL	
	ADA DISPLAY LIGHT CONTROL	
	STANDBY COMPASS LIGHT CONTROL	= STBY COMP
	AND ADA DISPLAY LIGHT CONTROL	= ALPHA

01.1.5.029.00

SET AFCS AND ADA INDEXER LIGHTING CONTROL AS DESIRED

	CHECKLIST	= SEQUENCE
SET	PILOTS AFCS & INDEXER CONTROL	
	COPILOT AFCS-INDEXER CONTROL	
	PILOTS AFCS & INDEXER CONTROL	= TBD
	AND COPILOT AFCS-INDEXER CONTROL	= TBD

01.1.5.030.00

SET OVHD/PED LIGHTING CONTROLS AS DESIRED

	CHECKLIST	= SEQUENCE
SET	OVRD INTEGRAL LIGHT CONTROL PED INTEGRAL LIGHT CONTROL	
	OVRD INTEGRAL LIGHT CONTROL	= TBD
	AND PED INTEGRAL LIGHT CONTROL	= TBD

01.1.5.031.00

SET 'C' (CENTER INSTRUMENT PANEL) LIGHTING AS DESIRED

	CHECKLIST	= SEQUENCE
SET	CN INST PNL INT LIGHT SW	
	CN INST PNL INT LIGHT SW	= TBD

01.1.5.032.00

SET AISLE LIGHTING SWITCH 'ON' IF DESIRED

	CHECKLIST	= SEQUENCE
SET	AISLE LIGHTING CONTROL	
	AISLE LIGHTING CONTROL	= TBD

01.1.5.033.00

DEPRESS FIRE DETR CIRCUIT TEST PUSHBUTTON*

	CHECKLIST	= SEQUENCE
DEPRESS	FIRE DETR TEST SW (PUSHBUTTON)	

01.1.5.033.01

CHECK ENGINES LOOPS A AND B FIRE DETECTION LIGHTS

	FIRE DETR TEST SW (PUSHBUTTON)= DEPRESSED	
CHECK	ENGINE-ADG LOOP A FIRE LIGHTS	
	ENGINE-ADG LOOP B FIRE LIGHTS	
	ENGINE-ADG LOOP A FIRE LIGHTS = ON	
	AND ENGINE-ADG LOOP B FIRE LIGHTS = ON	

01.1.5.033.02

CHECK APUS LOOPS A AND B FIRE DETECTION LIGHTS

FIRE DETR TEST SW (PUSHBUTTON)= DEPRESSED

CHECK

APU LOOP A LIGHT
APU LOOP B LIGHT

APU LOOP A LIGHT = ON
AND APU LOOP B LIGHT = ON

01.1.5.034.00

SET EMERG GEN SW TO 'ON' AND CHECK GENERATOR OUTPUT

CHECKLIST = SEQUENCE

01.1.5.034.01

RAISE SWITCH GUARD AND SET EMERG GEN SWITCH TO 'ON'

CHECKLIST = SEQUENCE

SET

EMERGENCY GENERATOR CONTROL SW
VOLTAGE/FREQ SELECTOR SWITCH

EMERGENCY GENERATOR CONTROL SW= ON
AND VOLTAGE/FREQ SELECTOR SWITCH = EMERG

01.1.5.034.02

CHECK EMERG GENERATOR OUTPUT*

EMERG GENERATOR ADVISORY LT = 'EMERG GEN ON'
AND VOLTAGE/FREQ SELECTOR SWITCH = EMERG

CHECK

VOLTAGE METER
FREQUENCY METER

VOLTAGE METER = TBD
AND FREQUENCY METER = TBD

01.1.5.035.00

POSITION FIRE WARNING AND EXTGH CIRCUIT SWITCH IN 'TEST'*

CHECKLIST = SEQUENCE

POSITION

FIRE WARN & EXTGH TEST SW

FIRE WARN & EXTGH TEST SW = TEST
AND APU FIRE SWITCHLIGHTS = 'APU FIRE'

01.1.5.036.00

SET FUEL QTY AND CG TEST SWITCHES UP, THEN DOWN

CHECKLIST

= SEQUENCE

01.1.5.036.01

SET FUEL QTY AND CG TEST SWITCHES UP

CHECKLIST

= SEQUENCE

SET

FUEL & CENTER OF GRAVITY SW

FUEL & CENTER OF GRAVITY SW = UP
AND FUEL MGT PANEL = TBD

01.1.5.036.02

SET FUEL QTY AND CG TEST SWITCHES DN*

FUEL & CENTER OF GRAVITY SW = UP
AND FUEL MGT PANEL = TBD

SET

FUEL & CENTER OF GRAVITY SW

FUEL & CENTER OF GRAVITY SW = DN*
AND FUEL MGT PANEL = TBD

01.1.5.037.00

CHECK FUEL QUANTITIES SHOWN IN A-V WITH ENTRIES IN FORM 781

CHECKLIST

= SEQUENCE

01.1.5.037.01

SET FUEL SEL TK TO VARIOUS POSNS AND CHECK DIGITAL READOUT

CHECKLIST

= SEQUENCE

CHECK

SELECT TANK SWITCH
SELECT QUANTITY DIGITAL READ

SELECT TANK SWITCH = TBD
AND SELECT QUANTITY DIGITAL READ = TBD

01.1.5.038.00

DEPRESS OXYGEN QTY TEST PUSHBUTTON*

CHECKLIST

= SEQUENCE

DEPRESS

OXYGEN TEST PUSHBUTTON

LIQUID OXYGEN QUANTITY METER = C*
AND LIQUID OXYGEN QUANTITY METER = TBD

01.1.5.039.00

VERIFY THAT WING SWEEP HANDLES ARE IN FULL FWD POSN (15 DEG)

CHECKLIST = SEQUENCE

CHECK

WING SWEEP HANDLES
WING SWEEP POSITION INDICATOR

WING SWEEP HANDLES = FULL FORWARD*
AND WING SWEEP POSITION INDICATOR = 15

01.1.5.040.00

REQUEST ALL CLEAR FROM GROUND CREW BEFORE OPERATING CONTROLS

CHECKLIST = SEQUENCE

OBSERVE

WINDSCREEN

WINDSCREEN = OBSERVED*

01.1.5.041.00

CYCLE FLAPS-SLATS FOR SYSTEM CHECK WITH SURF POSN INDICATORS

CHECKLIST = SEQUENCE

OPERATE

FLAP-SLAT CONTROL HANDLE

FLAP POSITION INDICATOR = TBD*
AND SLATS POSITION INDICATOR = TBD

01.1.5.042.00

CYCLE PRIMARY FLIGHT CONTROLS AND CHECK ON SURF POSN INDICS*

CHECKLIST = SEQUENCE

OPERATE

FLIGHT CONTROL STICK
RUDDER PEDALS

WING-SWEEP SURFACE POS IND = TBD*

01.1.5.043.00

VERIFY OPERATION OF STANDBY PITCH TRIM SYSTEM

CHECKLIST = SEQUENCE

01.1.5.043.01

SET PITCH TRIM POWER SWITCH IN "STBY" POSITION

CHECKLIST = SEQUENCE

SET

PITCH TRIM SWITCH

PITCH TRIM SWITCH = STBY

01.1.5.043.02

OPERATE PILOTS CONSOLE STBY PITCH TRIM SWITCH UP THEN DOWN

CHECKLIST = SEQUENCE

OPERATE

PILOT STBY PITCH SWITCH
PILOT STBY PITCH SWITCH

STABILIZER POSITION INDICATOR = TBD*

01.1.5.044.00

VERIFY OPERATION OF ALTERNATE TRIM SYSTEM*

CHECKLIST = SEQUENCE

01.1.5.044.01

SET PITCH, ROLL, AND YAW POWER SWITCHES (3) IN 'ALTER' POSN

CHECKLIST = SEQUENCE

SET

PITCH TRIM SWITCH
ROLL TRIM SWITCH
YAW TRIM SWITCH

PITCH TRIM SWITCH = ALTER
AND YAW TRIM SWITCH = ALTER

01.1.5.044.02

OPERATE PILOT'S STICK TRIM SWITCH AND CHECK POSN INDICATORS*

CHECKLIST = SEQUENCE

OPERATE

PLT TRIM SW (ON CONTR STICK)

STABILIZER POSITION INDICATOR = TBD*

01.1.5.044.03

OPERATE PILOT'S TRIM YAW SWITCH AND CHECK POSN INDICATORS*

CHECKLIST = SEQUENCE

OPERATE

PILOT YAW SWITCH

RUDDER POSITION INDICATOR = TBD*

01.1.5.045.00

VERIFY OPERATION OF NORMAL TRIM SYSTEM

CHECKLIST = SEQUENCE

01.1.5.045.01

SET PITCH, ROLL, AND YAW POWER SWITCHES (3) IN 'NORM' POSN

CHECKLIST

= SEQUENCE

SET

PITCH TRIM SWITCH
ROLL TRIM SWITCH
YAW TRIM SWITCH

PITCH TRIM SWITCH
AND YAW TRIM SWITCH

= NORM

= NORM

01.1.5.045.02

OPERATE PILOT'S STICK TRIM SWITCH AND CHECK POSN INDICATORS*

CHECKLIST

= SEQUENCE

OPERATE

PLT TRIM SW (ON CONTR STICK)

STABILIZER POSITION INDICATOR = TBD*

01.1.5.045.03

OPERATE PILOT'S TRIM YAW SWITCH AND CHECK POSN INDICATORS*

CHECKLIST

= SEQUENCE

OPERATE

PILOT YAW SWITCH

RUDDER POSITION INDICATOR = TBD*

01.1.5.045.04

DEPRESS TTO PUSHBUTTON AND CHECK GREEN LIGHT*

CHECKLIST

= SEQUENCE

DEPRESS

TRIM FOR TAKEOFF (TTO) SWITCH

TRIM FOR TAKEOFF LIGHT = ON

01.1.5.046.00

VERIFY SPEEDBRAKE OPERATION

CHECKLIST

= SEQUENCE

01.1.5.046.01

SET LEVER LOCKED SPDBK SWITCH TO 'ALTER' POSITION*

CHECKLIST

= SEQUENCE

SET

SPD BRK SWITCH

SPD BRK SWITCH

= ALTER

01.1.5.046.02

SET EITHER NO.4 THROTTLE SPDBK SWITCH TO 'OUT' POSITION*

SPD BRK SWITCH = ALTER

SET PILOTS SPD BRK CONTR #4 THROT
COPLTS SPD BRK CONTR #4 THROT

PILOTS SPD BRK CONTR #4 THROT = OUT*
AND LEFT AND RIGHT SPOILERS EM IND= 'UP'

01.1.5.046.03

SET EITHER NO.4 THROTTLE SPDBK SWITCH TO 'IN' POSITION

LEFT AND RIGHT SPOILERS EM IND= 'UP'

SET PILOTS SPD BRK CONTR #4 THROT
COPLTS SPD BRK CONTR #4 THROT

PILOTS SPD BRK CONTR #4 THROT = IN*
AND LEFT AND RIGHT SPOILERS EM IND= NO FLAG

01.1.5.046.04

SET LEVER LOCKED SPDBK SWITCH TO 'NORM' POSITION*

PILOTS SPD BRK CONTR #4 THROT = IN
AND LEFT AND RIGHT SPOILERS EM IND= NO FLAG

SET SPD BRK SWITCH

SPD BRK SWITCH = NORM

01.1.5.046.05

SET EITHER NO.4 THROTTLE SPDBK SWITCH TO 'OUT' POSITION*

SPD BRK SWITCH = NORM

SET PILOTS SPD BRK CONTR #4 THROT
COPLTS SPD BRK CONTR #4 THROT

PILOTS SPD BRK CONTR #4 THROT = OUT*
AND LEFT AND RIGHT SPOILERS EM IND= 'UP'

01.1.5.046.06

SET EITHER NO.4 THROTTLE SPDBK SWITCH TO 'IN' POSITION

LEFT AND RIGHT SPOILERS EM IND= 'UP'

SET PILOTS SPD BRK CONTR #4 THROT
COPLTS SPD BRK CONTR #4 THROT

PILOTS SPD BRK CONTR #4 THROT = IN*
AND LEFT AND RIGHT SPOILERS EM IND= NO FLAG

01.1.5.047.00

SET AMI COMMAND AIRSPEED AND MACH MARKERS AS REQUIRED

CHECKLIST

= SEQUENCE

01.1.5.047.01

SET AMI COMMAND AIRSPEED MARKERS AS REQUIRED

CHECKLIST

= SEQUENCE

SET

AIRSPEED COMMAND SLEW SWITCH

COMMAND AIRSPEED MARKER

= TBD

01.1.5.047.02

SET AMI COMMAND MACH MARKERS AS REQUIRED

COMMAND AIRSPEED MARKER

= TBD

SET

MACH COMMAND SLEW SWITCH

COMMAND MACH MARKER

= TBD

01.1.5.048.00

SET AVVI BARO CONTROLS TO CURRENT BAROMETRIC PRESSURE

CHECKLIST

= SEQUENCE

SET

BARO-SET KNOB

BARO-SET KNOB

= TBD

01.1.5.049.00

SET COMMAND ALTITUDE SLEWING SWITCH TO READ COMMAND ALTITUDE

CHECKLIST

= SEQUENCE

SET

COMMAND ALTITUDE SLEW SWITCH

COMMAND ALTITUDE SLEW SWITCH = TBD*

01.1.5.050.00

SET AND CHECK STANDBY FLIGHT INSTRUMENTS

CHECKLIST

= SEQUENCE

01.1.5.050.01

SET PITCH TRIM KNOB TO ZERO AND CHECK 'OFF' FLAG OUT OF VIEW

	CHECKLIST	= SEQUENCE
SET	PITCH TRIM KNOB	
	MINIATURE AIRPLANE	= TBD
	AND OFF FLAG-SADI	= NO FLAG

01.1.5.050.02

SET AIRSPEED-MACH NO. INDICATOR AIRSPEED MARKER AS REQUIRED

	CHECKLIST	= SEQUENCE
SET	AIRSPEED MARKER SET KNOB	
	AIRSPEED MARKER	= TBD
	AND MAX ALLOW AIRSPEED-MACH POINT	= TBD

01.1.5.050.03

SET GROUND SPEED-TRUE AIRSPEED SELECTOR SWITCH TO 'TAS'

	AIRSPEED MARKER	= TBD
SET	MODE SELECTOR KNOB	
	MODE SELECTOR KNOB	= TAS

01.1.5.050.04

SET BAROMETRIC SETTING KNOB ON STBY ALTIM TO LOCAL PRESSURE

	MODE SELECTOR KNOB	= TBD
SET	BAROMETRIC SETTING KNOB	
	BAROMETRIC SCALE COUNTER	= TBD

01.1.5.069.00

SET TFR MODE SWITCHES TO 'STBY'*

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-TFR	
	MODE SWITCH-TFR	= STBY

01.1.5.070.00

PERFORM OPERATIONAL CHECK OF RADAR ALTIMETER

	CHECKLIST	= SEQUENCE
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01.1.5.070.01

SET SELECTOR TO '1' AND CHECK SELF TEST CIRCUITS*

	CHECKLIST	= SEQUENCE
SET	CHANNEL SELECTOR SWITCH POWER-SET-TEST CONTROL KNOB	
	CHANNEL SELECTOR SWITCH AND SELF-TEST VALID LIGHT	= 1* = ON

01.1.5.070.02

SET SELECTOR TO '2' AND CHECK SELF TEST CIRCUITS

	CHECKLIST	= SEQUENCE
SET	CHANNEL SELECTOR SWITCH POWER-SET-TEST CONTROL KNOB	
	CHANNEL SELECTOR SWITCH AND SELF-TEST VALID LIGHT	= 2* = ON

01.1.5.070.03

SET SELECTOR TO '1 OR 2' FOR NORMAL OPERATIONS*

	CHECKLIST	= SEQUENCE
SET	CHANNEL SELECTOR SWITCH CHANNEL SELECTOR SWITCH	
		= 1 OR 2

01.1.5.071.00

CHECK IFR'S OPERATIONALLY*

	CHECKLIST	= SEQUENCE
CHECK	TF INDICATOR PANEL TF INDICATOR PANEL	
		= COMPLETED

OBJECTIVE: PERFORM (POWER ON) INTERIOR INSPECTION

1.7

INITIAL CONDITIONS: CRITICALITY: 2 DIFFICULTY: 1
1. Interior inspection (power off) performed by flight crew

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP perform (power on) interior inspection checks
2. DSO performs (power on) interior inspection checks

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that when the ICS switch knob is pulled intercom transmissions are possible.
2. Recall that by rotating the ICS switch clockwise turns the reception on and increments the receive volume in discrete steps.
3. Recall that when the test pushbutton on the ICS control panel is depressed the input and output amplifiers are tested by emitting an aural tone through the headset.
4. Recall how the CITS (Central Integrated Test Subsystem) displays the status of A/V subsystems when they have faults.
5. Recall that with the GNACU (General Navigation Avionics Control Unit) in DSBL no commands can be transmitted by the right EMUX (Electrical Multiplexer) to turn on the GNACU.
6. Recall that with the WDACU (Weapons Delivery Avionics Control Unit) in DSBL no commands can be transmitted by the left EMUX to turn on the WDACU.
7. Recall that when the doppler switch is placed in STBY the doppler starts to warm up.
8. Recall that with the INS #1 switch in INS 1, the ACU is enabled via the right EMUX to turn on INS #1.
9. Recall that with the INS #2 switch in INS 2, the ACU is enabled via the left EMUX to turn on INS #2.
10. Recall that latitude and longitude can be entered with the IKB through

ENABLING OBJECTIVES: (continued)

the NAV function, the STARTUP subfunction and the INITIAL DATA option of the navigation logic trees.

11. Recall that magnetic variation can be entered with the IKB through the NAV function, the AUX NAV subfunction and the MAG VAR option of the navigation logic trees.
12. Recall that with the FLR mode switch in STBY all system filaments and protective time delays are energized.
13. Recall that with the EVS rides select knob in STBY only alphanumeric data is presented on the MFD.
14. Recall that with the FLIR mode select control in STBY power is applied to all units except the signal processor and azimuth scan mirror.
15. Recall that when the memory control pushbutton on the IKB is depressed the tape cassette is set in motion and data are fed to the selected memory unit.
16. Recall that mission data can be verified on the SMS (Stores Management System) CRT's and by calling up sequence numbers on the navigation panel.
17. Recall that with the FLR mode switch in ON the system is energized with the exception of the transmitter provided the nominal 40-second protective time delay has been completed.
18. Recall that with the FLR mode control in XMIT the system is transmitting and receiving provided the nominal 5-minute delay has been completed.
19. Recall what the proper presentation on the CRT of the FLR is like when the A/V is on the ground.
20. Recall that when the FLIR mode control is set to OPR, power is supplied to all units to enable full operational capability, provided the EVS video select control is not off.
21. Recall that when the EVS video select control is set to FLIR, video from the FLIR sensor is displayed on the MFD.
22. Recall what the proper FLIR presentation on the MFD is like when the A/V is on the ground.
23. Recall that when either the INS #1 or INS #2 navigation mode switch is illuminated determines the particular inertial navigation system that will be used for FLR or EVS cross hair laying, etc..

ENABLING OBJECTIVES: (continued)

24. Recall that with either the INS #1 or INS #2 navigation mode switch illuminated, the true heading should indicate the same as the A/V's actual heading and the ground speed should indicate zero.
25. Recall that the display group of controls on the SMS panel provides the means by which a DATA format is displayed on a specific CRT.
26. Recall that the STAT switchlight on the DATA group of the SMS panel provides weapon status at all locations.
27. Recall that the INV switchlight on the DATA group of the SMS panel provides full store inventory at all store locations.

ANCILLARY OBJECTIVES:

1. Recall that the CITS mode switch has 12 positions some of which are used in flight only and others for ground operation only.
2. Recall that a separate dedicated keyboard to CITS is used to allow entry of numerically coded data into the computer.
3. Recall that a matrix of 50 switch indicators are used to identify failures and allow selection of subsystems for display of failure information.
4. Recall that the 50 switch indicators are split-screen indicators. The upper half identifies a failure and the lower half indicates the availability of α -N display messages.
5. Recall that a 20-character α -N readout is provided for display of CITS data.
6. Recall that the doppler XMT/STBY/OFF switch is the only hard wired power control on the auxiliary panel and when the switch is placed in STBY, the standby line is grounded.
7. Recall that ACU power must be turned on to complete coarse alignment and for gyro torquing the INS's.
8. Recall that the COARSE indicator flashes four times per second while the particular INS is in the hardware coarse alignment phase and turns steady when the coarse leveling phase is entered.
9. Recall that nine lines of data can be presented on the IKB CRT.
10. Recall that with the FLR mode switch in STBY, the antenna is held in an azimuth limit, zero pitch and maximum up in tilt.

ANCILLARY OBJECTIVES: (continued)

11. Recall that with the FLIR mode select control in STBY overheat failure circuits are operative and cannot be overridden.
12. Recall that the memory control switchlight on the IKB extinguishes when loading is complete.
13. Recall that formats are placed on the CRT displays on a last requested priority basis.
14. Recall that a particular display can be blanked by selecting the appropriate DIS switch when a DATA switch has not been selected.
15. Recall that the DATA functional switches are mutually exclusive and are activated on a "last selected" priority basis.
16. Recall that expanded status data is provided using the Location Select and numeric keyboard.

OPERATOR: OSO

TASK ELEMENTS:

1.1.5.11	1.1.5.64
1.1.5.11.1	1.1.5.65
1.1.5.11.2	1.1.5.66
1.1.5.11.3	1.1.5.67
1.1.5.52	1.1.5.68
1.1.5.53	1.1.5.73
1.1.5.54	1.1.5.76
1.1.5.55	1.1.5.77
1.1.5.56	1.1.5.78
1.1.5.57	1.1.5.79
1.1.5.58	1.1.5.80
1.1.5.59	1.1.5.81
1.1.5.61	1.1.5.82
1.1.5.62	1.1.5.83
1.1.5.63	

01.1.5.011.00

SET AND TEST ICS (INTERCOM SYSTEM) CONTROL

	CHECKLIST	= SEQUENCE
SET	INTERCOMS	
	INTERCOMS	= TBD

01.1.5.011.01

PULL ICS CONTROL AND SET VOLUME AS DESIRED

	CHECKLIST	= SEQUENCE
SET	ICS VOLUME	
	ICS VOLUME	= SET

01.1.5.011.02

DEPRESS ICS TEST PUSHBUTTON

	CHECKLIST	= SEQUENCE
DEPRESS	TEST SWITCHES-ICS	
	HEADSETS	= SIDE TONE

01.1.5.011.03

EACH CREWMEMBER REPORTS 'ICS READY'

	CHECKLIST	= SEQUENCE
COMMUNICATE	INTERCOM	
	INTERCOM	= 'ICS READY'*

01.1.5.052.00

ESTABLISH INTERPHONE COMMUNICATIONS*

VOLTAGE METER = TBD
AND FREQUENCY METER = TBD

COMMUNICATE

OSO INTERPHONE SWITCH
OSO INTERPHONE SWITCH

OSO ICS = CHECKED*
AND OSO ICS = CHECKED

01.1.5.053.00

MONITOR CITS DISPLAY PANEL FOR FAULT TEST

CHECKLIST = SEQUENCE

MONITOR-VISUAL

CITS CONTROL, DISPLAY PANEL

CITS CONTROL, DISPLAY PANEL = TBD*

01.1.5.054.00

SET ACU GEN NAV-WPN DEL AND DOPPLER PWR SWITCHES

CHECKLIST = SEQUENCE

SET

GN-DSBL SWITCH
WD-DSBL SWITCH
DOPPLER CONTROL

GN-DSBL SWITCH = DSBL*
AND DOPPLER CONTROL = STBY

01.1.5.055.00

SET INS 1 (INERTIAL NAV SYSTEM) SWITCH TO 'ENBL'

CHECKLIST = SEQUENCE

SET

INS1 DSBL SWITCH

INS1 DSBL SWITCH = INS 1*
AND NAVIGATION ANNUNCIATORS-INS1 = 'WM UP'

01.1.5.056.00

SET INS 2 SWITCH TO 'ENBL'

CHECKLIST = SEQUENCE

SET

INS 2 DSBL SWITCH

INS 2 DSBL SWITCH = INS 2*
AND NAVIGATION ANNUNCIATORS-INS 2 = 'WM UP'

01.1.5.057.00

SET GROUND POSITION (LAT, LONG, MAGNETIC VARIATIONS) VIA IKB

	CHECKLIST	= SEQUENCE
SET	OPTION SELECT SWITCHES	
	DISPLAY TUBE SURFACE	= TBD

01.1.5.058.00

SET FLR OPERATING MODE ROTARY CONTROL TO 'STBY'

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-RADAR SET-2	
	MODE SWITCH-RADAR SET-2	= STBY

01.1.5.059.00

SET EVS VIDEO SELECT ROTARY KNOB TO 'STBY'

	CHECKLIST	= SEQUENCE
SET	VIDEO SELECT SWITCH	
	VIDEO SELECT SWITCH	= STBY

01.1.5.061.00

SET FLIR MODE SELECT ROTARY CONTROL TO 'STBY'

	CHECKLIST	= SEQUENCE
SET	MODE SELECT SWITCH-FLIR	
	MODE SELECT SWITCH-FLIR	= STBY

01.1.5.062.00

DEPRESS MEMORY CONTROL PUSHBUTTON TO LOAD MISSION CASSETTE*

	CHECKLIST	= SEQUENCE
DEPRESS	MEMORY SWITCHES (LOAD-ERASE)	
	MEMORY SWITCHES (LOAD-ERASE)	= DEPRESSED

01.1.5.063.00

VERIFY MISSION DATA CASSETTE IS LOADED*

	CHECKLIST	= SEQUENCE
CHECK	SMS CRT READOUT ASSEMBLY-LEFT	
	SMS CRT READOUT ASSEMBLY-RIGHT	
	NAVIGATION PANEL	
	SMS CRT READOUT ASSEMBLY-LEFT	= TBD*
	AND NAVIGATION PANEL	= TBD

01.1.5.064.00

SET FLR OPERATING MODE CONTROL TO 'ON' AND ADJUST

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-RADAR SET-2	
	SWEEP CONTROL	= TBD*
	AND RANGE MARK CONTROL	= TBD

01.1.5.065.00

CLEAR WITH GO FOR RADAR TRANSMIT CHECK

COMMUNICATE	OSO INTERPHONE SWITCH	
	GROUND OBSERVER ICS	= 'AREA IS CLEAR'*

01.1.5.066.00

SET FLR OPERATING MODE TO 'XMIT' AND CHECK OPERATION

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-RADAR SET-2	
	MODE SWITCH-RADAR SET-2	= XMIT*
	AND CRT DISPLAY SURFACE	= CHECKED

01.1.5.067.00

SET FLR OPERATING MODE TO 'ON'

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-RADAR SET-2	
	MODE SWITCH-RADAR SET-2	= ON

01.1.5.068.00

INFORM GO THAT FLR TRANSMIT CHECK IS COMPLETE

	MODE SWITCH-RADAR SET-2	= ON
COMMUNICATE	OSO INTERPHONE SWITCH	
	GROUND OBSERVER ICS	= ACKNOWLEDGED

01.1.5.073.00

SET FLIR MODE SELECT CONTROL TO 'OPR'

	CHECKLIST	= SEQUENCE
SET	MODE SELECT SWITCH-FLIR	
	MODE SELECT SWITCH-FLIR	= OPR

01.1.5.076.00

SET EVS VIDEO SELECT CONTROL TO 'FLIR'

	CHECKLIST	= SEQUENCE
SET	VIDEO SELECT SWITCH	
	VIDEO SELECT SWITCH	= FLIR

01.1.5.077.00

CHECK FLIR DISPLAY PRESENTATION (MFD)*

	CHECKLIST	= SEQUENCE
CHECK	MULTIFUNCTION DISPLAY	
	MULTIFUNCTION DISPLAY	= CHECKED

01.1.5.078.00

DEPRESS INS 1 SELECT PUSHBUTTON TO CHECK ALIGNMENT

	CHECKLIST	= SEQUENCE
DEPRESS	INS-1 MODE SELECT	
	INS-1 MODE SELECT	= 'NAV'*

01.1.5.079.00

CHECK INS 1 ALIGNMENT

CHECK

CHECKLIST	= SEQUENCE
NAVIGATION PANEL	
NAVIGATION CORRECTION PANEL	
NAVIGATION PANEL	= CHECKED
AND NAVIGATION CORRECTION PANEL	= CHECKED

01.1.5.080.00

DEPRESS INS 2 SELECT PUSHBUTTON TO CHECK ALIGNMENT

DEPRESS

CHECKLIST	= SEQUENCE
INS-2 MODE SELECT	
INS-2 MODE SELECT	= 'NAV'*

01.1.5.081.00

CHECK INS 2 ALIGNMENT

CHECK

CHECKLIST	= SEQUENCE
NAVIGATION PANEL	
NAVIGATION CORRECTION PANEL	
NAVIGATION PANEL	= CHECKED
AND NAVIGATION CORRECTION PANEL	= CHECKED

01.1.5.082.00

DEPRESS DISPLAY SELECT PUSHBUTTON

DEPRESS

CHECKLIST	= SEQUENCE
L DIS SELECTOR PUSHBUTTON	
R DIS SELECTOR PUSHBUTTON	
L DIS SELECTOR PUSHBUTTON	= DEPRESSED
AND R DIS SELECTOR PUSHBUTTON	= DEPRESSED

01.1.5.083.00

DEPRESS DATA SELECT FOR NUCLEAR WEAPON LOCATION AND STATUS

DEPRESS

CHECKLIST	= SEQUENCE
STAT DATA CONTROL SWITCH	
INV DATA CONTROL SWITCH	
SMS CRT READOUT ASSEMBLY-LEFT	= TBD*
AND SMS CRT READOUT ASSEMBLY-RIGHT	= TBD

OBJECTIVE: PERFORM COCKING

1.8

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Interior inspection (power on) performed by flight crew

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO performs cocking procedures
2. DSO performs cocking procedures

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the flap/slat handle is held in a stop-detent, SLAT-RET, when the slats are in the retracted position and the flaps are up.
2. Recall that when the slats indicator displays RET, the slats are in the completely retracted position.
3. Recall that when the flaps indicator points to UP, the flaps positions correspond to zero degrees of deflection.
4. Recall that when the speed brakes are retracted all eight spoilers on the surface indicator panel will show blank.
5. Recall that when the X-Band transponder is placed in STBY primary power is applied to the radar transponder but the radar component will not respond to interrogations.
6. Recall that when the AFCS (Automatic Flight Control System) TAKE COMD switchlight is depressed at the pilot's station, the white light, if illuminated, will change to green; at the same time, the green TAKE COMD light at the copilot's station will change to white.
7. Recall that when the AFCS ENGAGE switchlight is depressed, the green light will change to white and vice versa at both the pilot's and copilot's AFCS mode select panels.
8. Recall that actuation of the APU mode switch to OFF provides an electrical signal to the APU control system to shutdown the APU but it leaves the inlet and exhaust doors open.
9. Recall that with the windshield power select switch in BOTH, power

✓
ENABLING OBJECTIVES: (continued)

for defog or anti-ice functions will be available to the left and right windshields and side window panels.

10. Recall that when the IFF master control switch is in NORM, full range recognition and reply is possible.
11. Recall that the APU mode switches are set in RUN to preposition them for remote APU start by actuation of the nose wheel alert start button.
12. Recall that selection of the "ALERT ARM" position allows the batteries to be automatically switched on by the nose wheel alert start button.
13. Recall that when the CMF (Crew Mission File) is locked in the CMF storage container, the A/V will be under prime surveillance by the security guards.
14. Recall which ground safety pins and locks should be removed after the A/V has been cocked.
15. Recall which climatic covers should remain in place while the A/V is on alert.

ANCILLARY OBJECTIVES:

1. Recall that the barberpole on the slats position indicator is displayed when the slats are in transit or if there is a malfunction in the slats indicating system.
2. Recall that flap position indicator gradations are provided at each one-quarter position.
3. Recall that a spoiler indicator will display UP if the spoiler is not in the fully retracted position.
4. Recall that with the exception of the TAKE COMD switchlights activation of each AFCS mode switchlight by one crewman will be indicated by the same colored legend illumination for the other crewman.

OPERATOR: P/CP

TASK ELEMENTS:

1.2.1.1	1.2.1.5	1.2.1.27	1.2.1.39
1.2.1.2	1.2.1.24	1.2.1.28	1.2.1.40
1.2.1.3	1.2.1.25	1.2.1.37	
1.2.1.4	1.2.1.26	1.2.1.38	

01.2.1.001.00

VERIFY THAT FLAPS-SLATS ARE RETRACTED

CHECK

CHECKLIST

= SEQUENCE

FLAP-SLAT CONTROL HANDLE
FLAP POSITION INDICATOR
SLATS POSITION INDICATOR

FLAP-SLAT CONTROL HANDLE
AND SLATS POSITION INDICATOR

= SLAT RET*
= 'RET'

01.2.1.002.00

VERIFY THAT SPODBRKS ARE RETRACTED

CHECK

CHECKLIST

= SEQUENCE

PILOTS SPD BRK CONTR #4 THROT
LEFT SPOILER EM INDICATORS
SPOILER INDICATORS

PILOTS SPD BRK CONTR #4 THROT = IN
AND RIGHT SPOILER EM INDICATORS = NO FLAG

01.2.1.003.00

VERIFY UHF RADIOS BY CONTACTING COMMAND POST

COMMUNICATE

CHECKLIST

= SEQUENCE

PUSH-TO-TALK SWITCH

PILOT UHF COMM PANEL
AND COPILOT UHF COMM PANEL

= 'RADIO CHECK'*
= 'RADIO CHECK'

01.2.1.004.00

SET BOTH RADAR XPNDR POWER CONTROLS TO 'STBY' POSITION

SET

CHECKLIST

= SEQUENCE

POWER SELECT SWITCH

POWER SELECT SWITCH

= STBY

01.2.1.005.00

VERIFY THAT THE AFCS IS DISENGAGED

VERIFY

CHECKLIST

= SEQUENCE

TAKE COMMAND PUSHBUTTON
ENGAGE PUSHBUTTONS

TAKE COMMAND PUSHBUTTON
AND ENGAGE PUSHBUTTONS

= 'TAKE CMD'-W*
= 'ENGAGE'-W

01.2.1.024 .00

SET APU MODE SWITCHES TO 'OFF' POSITION*

	CHECKLIST	= SEQUENCE
SET	MODE SWITCHES	
	MODE SWITCHES	= OFF

01.2.1.025 .00

SET WSHLD POWER SWITCH TO 'BOTH' POSITION

	CHECKLIST	= SEQUENCE
SET	WINDSHIELD POWER SELECT SWITCH	
	WINDSHIELD POWER SELECT SWITCH	= BOTH

01.2.1.026 .00

SET IFF MASTER CONTROL SWITCH TO 'NORM' POSITION

	CHECKLIST	= SEQUENCE
SET	MASTER CONTROL SELECT SWITCH	
	MASTER CONTROL SELECT SWITCH	= NORM

01.2.1.027 .00

SET APU MODE SWITCHES TO 'RUN' POSITION*

	CHECKLIST	= SEQUENCE
SET	MODE SWITCHES	
	MODE SWITCHES	= RUN

01.2.1.028 .00

SET BATT SWITCH TO 'ALERT-ARM' POSITION*

	CHECKLIST	= SEQUENCE
SET	BATTERY SELECT SWITCH	
	BATTERY SELECT SWITCH	= ALERT-ARM

01.2.1.037 .00

PLACE A-3 BAG IN APPROPRIATE CREW STATION*

	PERSONAL GEAR	= INSTALLED
PLACE	A-3 BAGS	
	A-3 BAGS	= PLACED

01.2.1.038 .00

PLACE CREW MISSION FILE ABOARD A-V*

	PERSONAL GEAR	= INSTALLED
PLACE	COMBAT MISSION FOLDER	
	COMBAT MISSION FOLDER	= PLACED*

01.2.1.039 .00

CHECK GROUND SAFETY PINS AND LOCKS REMOVED

	A-V CREW STATIONS	= EXITED*
CHECK	GROUND SAFETY PINS AND LOCKS	
	GROUND PINS AND LOCKS	= REMOVED

01.2.1.040.00

CHECK CLIMATIC COVERS INSTALLED, IF REQUIRED

	A-V CREW STATIONS	= EXITED*
CHECK	CLIMATIC COVERS	
	CLIMATIC COVERS	= INSTALLED

OBJECTIVE: PERFORM COCKING

1.9

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Interior inspection (power on) performed by flight crew

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP perform cocking procedures
2. DSO performs cocking procedures

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the weapons bay doors are opened by depressing the pushbutton switch and are closed by depressing the switch a second time.
2. Recall that the weapons bay doors pushbutton switch flashes twice a second until the doors reach the selected position.
3. Recall that with the video select switch in OFF all electrical power is removed from the MFD and power to the FLIR is not available.
4. Recall that with the FLIR mode select switch in OFF all power is removed from the FLIR.
5. Recall that with the FLR mode control in OFF, the entire system is energized.
6. Recall that the alignment mode can be entered with the IKB through the NAV function, the STARTUP subfunction and the PROCEDURE option of the navigation logic trees.
7. Recall that when both INS switches on the navigation panel are turned off neither INS can be used to navigate the A/V.
8. Recall that with the General Navigation ACU in DSBL no commands can be transmitted by the right EMUX to turn on the GNACU.
9. Recall that with the Weapons Delivery ACU in DSBL no commands can be transmitted by the left EMUX to turn on the WDACU.
10. Recall that with the navigation mode select pushbutton in AUTO, the ACU can determine when and which mode and what calculations will be used.

ENABLING OBJECTIVES:

(continued)

11. Recall that the Kalman filter will accept Doppler information as being from land returns when the navigation mode LAND/SEA pushbutton is in LAND.
12. Recall that with the DEST pushbutton on the navigation panel illuminated, the X-hairs will be positioned on destination points.
13. Recall that with the INS #1 switch in INS 1, the ACU can be enabled via the right EMUX to turn on INS #1.
14. Recall that with the INS #2 switch in INS 2, the ACU can be enabled via the left EMUX to turn on INS #2.
15. Recall that with the doppler switch in STBY, warm up of the doppler can be initiated.
16. Recall that with the GNACU set to GN, commands can be transmitted by the right EMUX to turn on the GNACU.
17. Recall that with the WDACU set to WD, commands can be transmitted by the left EMUX to turn on the WDACU.
18. Recall that with the FLR mode switch in STBY all system filaments and protective time delays can be energized.
19. Recall that with the EVS select switch in FLIR, video from the FLIR sensor can be displayed.
20. Recall that with the FLIR mode select switch set to OPR, power can be supplied to all units to enable full operational capability.
21. Recall that when the CMF (Crew Mission File) is locked in the CMF storage container, the A/V will be under prime surveillance by the security guards.
22. Recall which ground safety pins and locks should be removed after the A/V has been cocked.

ANCILLARY OBJECTIVES:

1. Recall that the weapons bays have two door controls for providing part open and full open positions.
2. Recall that when the weapons bay doors selectors are not illuminated the doors are closed.

ANCILLARY OBJECTIVES: (continued)

3. Recall that nine lines of data can be presented on the IKB CRT.
4. Recall that if both of the ACU switches are on and one is turned off only the selected ACU will turn off.
5. Recall that if one of the ACU switches is off and the other ACU switch is turned off all associated systems except the two IAU's (Interface Adapter Units) will be turned off immediately. The remaining ACU will issue a turn-off command to EMUX for itself and the two IAU's only after all weapons have been safed and associated housekeeping is completed.
6. Recall that if the doppler power switch is in the transmit position, the applicable LAND/SEA segment will be lit when the doppler data is being used to determine and/or damp the velocity inputs to present position calculations.
7. Recall that with the doppler switch in STBY, the standby line is grounded.
8. Recall that ACU power must be on for coarse alignment to be completed and for gyro torquing the INS's.
9. Recall that with the FLR mode switch in STBY, the antenna will be held in an azimuth limit, zero pitch and maximum up in tilt.
10. Recall that the CAS/TAS (Calibrated Air Speed/True Air Speed) Indicator would be used in the event of partial or complete failure of the navigation computer complex.
11. Recall that the data displayed on the CAS/TAS Indicator would be supplied from whichever Air Data System that has been selected at the front crew station.

OPERATOR: OSO

<u>TASK ELEMENTS:</u>	1.2.1.6	1.2.1.20	1.2.1.34
	1.2.1.7	1.2.1.21	1.2.1.35
	1.2.1.9	1.2.1.22	1.2.1.36
	1.2.1.10	1.2.1.23	1.2.1.37
	1.2.1.14	1.2.1.29	1.2.1.38
	1.2.1.16	1.2.1.30	1.2.1.39
	1.2.1.17	1.2.1.31	
	1.2.1.18	1.2.1.32	
	1.2.1.19	1.2.1.33	

01.2.1.006.00

DEPRESS WEAPONS BAY DOORS CONTROL TO OPEN-CLOSE AS REQUIRED*

	CHECKLIST	= SEQUENCE
DEPRESS	BAY DOOR CONTROL	
	BAY DOOR CONTROL	= TBD

01.2.1.007.00

SET VIDEO SELECT SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	VIDEO SELECT SWITCH	
	VIDEO SELECT SWITCH	= OFF

01.2.1.009.00

SET FLIR MODE SELECT ROTARY SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	MODE SELECT SWITCH-FLIR	
	MODE SELECT SWITCH-FLIR	= OFF

01.2.1.010.00

SET FLR OPERATING MODE ROTARY CONTROL TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-RADAR SET-2	
	MODE SWITCH-RADAR SET-2	= OFF

01.2.1.014.00

SET ALIGNMENT MODE OPTION THRU IKB PUSHBUTTONS*

	CHECKLIST	= SEQUENCE
SET	OPTION SELECT SWITCHES	
	OPTION SELECT SWITCHES	= TBD

01.2.1.016.00

SET INS 1 SELECT PUSHBUTTON TO 'OUT'

	CHECKLIST	= SEQUENCE
SET	INS-1 MODE SELECT	
	INS-1 MODE SELECT	= OFF

01.2.1.017.00

SET INS 2 SELECT PUSHBUTTON TO 'OUT'

SET

CHECKLIST

= SEQUENCE

INS-2 MODE SELECT

INS-2 MODE SELECT

= OFF

01.2.1.018.00

SET NAV MODE AUTO MAN PUSHBUTTON TO 'AUTO'

SET

CHECKLIST

= SEQUENCE

AUTO-MAN MODE SELECT

AUTO-MAN MODE SELECT

= 'AUTO'

01.2.1.019.00

SET NAV MODE LAND SEA PUSHBUTTON TO 'LAND'

SET

CHECKLIST

= SEQUENCE

LAND-SEA MODE SELECT

LAND-SEA MODE SELECT

= 'LAND'

01.2.1.020.00

SET X-HAIR PUSHBUTTON TO 'DEST'

DEPRESS

CHECKLIST

= SEQUENCE

DESTINATION X-HAIR CONTROL

DESTINATION X-HAIR CONTROL

= ON

01.2.1.021.00

SET GEN NAV POWER SWITCH TO 'DSBL'

SET

CHECKLIST

= SEQUENCE

GN-DSBL SWITCH

GN-DSBL SWITCH

= DSBL

01.2.1.022.00

SET WPN DEL POWER SWITCH TO 'DSBL'

SET

CHECKLIST

= SEQUENCE

WD-DSBL SWITCH

WD-DSBL SWITCH

= DSBL

01.2.1.023 .00

NOTIFY 'P-CP' READY FOR 'POWER OFF'

	CHECKLIST 'PWR ON'	= COMPLETED
COMMUNICATE	OSO INTERPHONE SWITCH	
	OSO INTERPHONE SWITCH	
	OSO ICS	= 'POWER OFF'*
	AND PILOT ICS	= ACKNOWLEDGED

01.2.1.029 .00

SET INS 1 ENBL TOGGLE SWITCH TO 'ENBL'

	CHECKLIST	= SEQUENCE
SET	INS1 DSBL SWITCH	
	INS1 DSBL SWITCH	= INS 1

01.2.1.030 .00

SET INS 2 ENBL TOGGLE SWITCH TO 'ENBL'

	CHECKLIST	= SEQUENCE
SET	INS 2 DSBL SWITCH	
	INS 2 DSBL SWITCH	= INS 2

01.2.1.031 .00

SET DPLR MODE SELECT TOGGLE SWITCH TO 'STBY'

	CHECKLIST	= SEQUENCE
SET	DOPPLER CONTROL	
	DUPPLER CONTROL	= STBY

01.2.1.032.00

SET ACU (GEN NAV) TOGGLE SWITCH TO 'ON'

	CHECKLIST	= SEQUENCE
SET	GN-DSBL SWITCH	
	GN-DSBL SWITCH	= GN

01.2.1.033.00

SET ACU (WPN DEL) TOGGLE SWITCH TO 'ON'

	CHECKLIST	= SEQUENCE
SET	WD-DSBL SWITCH	
	WD-DSBL SWITCH	= WD

01.2.1.034.00

SET FLR OPERATING MODE DETENTED ROTARY CONTROL TO 'STBY'

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= STBY

01.2.1.035.00

SET FLIR MODE SELECT DETENTED ROTARY CONTROL TO 'OPR'

	CHECKLIST	= SEQUENCE
SET	MODE SELECT SWITCH-FLIR	
	MODE SELECT SWITCH-FLIR	= OPR

01.2.1.036 .00

SET AIRSPEED-ALTITUDE SPEED IDENTIFIER CONTROL TO 'CAS'

	CHECKLIST	= SEQUENCE
SET	AIRSPEED-ALTITUDE INDICATOR SW	
	AIRSPEED-ALTITUDE INDICATOR SW= CAS	

01.2.1.037 .00

PLACE A-3 BAG IN APPROPRIATE CREW STATION*

	PERSONAL GEAR	= INSTALLED
PLACE	A-3 BAGS	
	A-3 BAGS	= PLACED

01.2.1.038 .00

PLACE CREW MISSION FILE ABOARD A-V*

	PERSONAL GEAR	= INSTALLED
PLACE	COMBAT MISSION FOLDER	
	COMBAT MISSION FOLDER	= PLACED*

01.2.1.039 .00

CHECK GROUND SAFETY PINS AND LOCKS REMOVED

	A-V CREW STATIONS	= EXITED*
CHECK	GROUND SAFETY PINS AND LOCKS	
	GROUND PINS AND LOCKS	= REMOVED

OBJECTIVE: PERFORM DAILY ALERT PREFLIGHT

1.10

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. A/V cocked by flight crew

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO performs daily alert preflight
2. DSO performs daily alert preflight

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the FORM 781 indicates any outstanding discrepancies about the A/V and the stores configuration in the weapons bays.
2. Recall that all control surfaces should have complete freedom of movement.
3. Recall which access doors and covers should be secured and which should remain open until after the engines have been started.
4. Recall that the covers for the angle-of-attack vanes should be removed.
5. Recall which ground safety locks and pins, such as landing gear "downlocks", should remain installed until after the A/V has been recocked.
6. Recall how the OLOGS (Open Loop Oxygen Generating System) levers should be set prior to recocking the A/V.
7. Recall that with the Nuclear Consent switch in NORM, the switch is in the off position.
8. Recall that when the APU mode switches are set to START they are held in that position until ignition-start has taken place.
9. Recall that holding the fuel and CG test switch to up or down will run the tapes of all fuel quantity, total fuel quantity, digital fuel quantity and center of gravity indicators to up or down corresponding to the switch position.
10. Recall that actuation of the APU mode switch to OFF provides an

ENABLING OBJECTIVES: (continued)

electrical signal to the APU control system to shutdown the APU, but it leaves the inlet and exhaust doors open.

11. Recall that the APU mode switches are set in RUN to preposition them for remote APU start by actuation of the nose wheel alert start button.
12. Recall that selection of the "ALERT ARM" position allows the batteries to be automatically switched on by the nose wheel alert start button.

ANCILLARY OBJECTIVES:

1. Recall that the covers for the total temperature and pitot-static probes should be removed and the probes should be free of foreign material.
2. Recall that the APU mode switches will automatically move to the RUN position after ignition-start has taken place.
3. Recall that the APU's will continue to run until one of the self-contained APU parameter sensors initiate an automatic shutdown or the switches are placed in OFF or the APU STOP switch in the wheel well is depressed.

OPERATOR: P/CP

TASK ELEMENTS:

1.3.1.1	1.3.1.3	1.3.1.8
1.3.1.1.1	1.3.1.4	1.3.1.9
1.3.1.1.2	1.3.1.5	1.3.1.10
1.3.1.1.3	1.3.1.6	1.3.1.11
1.3.1.2	1.3.1.7	1.3.1.12

01.3.1.001.00

PERFORM EXTERIOR INSPECTION

CHECKLIST

= SEQUENCE

01.3.1.001.01

CHECK ALL SERVICING COMPLETE AGAINST FORM 781.

CHECKLIST

= SEQUENCE

CHECK

FORM 781

FORM 781

= COMPLETE

01.3.1.001.02

CHECK BOMB PRE FLIGHT ACCOMPLISHED BY MMS*

CHECKLIST

= SEQUENCE

CHECK

BOMB

BOMB

= PREFLIGHT

01.3.1.001.03

PERFORM EXTERIOR INSPECTION IN DETAIL*

CHECKLIST

= SEQUENCE

INSPECT

A-V EXTERIOR

A-V EXTERIOR

= INSPECTED

01.3.1.002.00

ASSUME CREW POSITIONS

A-V EXTERIOR

= INSPECTED

OCCUPY

AIR-VEHICLE

AIR-VEHICLE

= OCCUPIED

01.3.1.003.00

CHECK NUCLEAR SWITCH TO 'NORM'*

CHECKLIST

= SEQUENCE

CHECK

NUCLEAR CONSENT SWITCH

NUCLEAR CONSENT SWITCH

= NORM

01.3.1.004.00

APPLY POWER SOURCE TO A-V (APU OR EXT. SUPPLY)*

APPLY

CHECKLIST = SEQUENCE
APU PANEL
EXTERNAL POWER CONTROL SWITCH
APU PANEL = ON
OR EXTERNAL POWER CONTROL SWITCH = ON

01.3.1.005.00

CHECK OXYGEN QUANTITY

CHECK

CHECKLIST = SEQUENCE
OXYGEN-QUANTITY INDICATOR
OXYGEN-QUANTITY INDICATOR = TBD

01.3.1.006.00

SET FUEL AND CG TEST SWITCH

TEST

CHECKLIST = SEQUENCE
FUEL & CENTER OF GRAVITY SW
FUEL & CENTER OF GRAVITY SW = UP
AND FUEL & CENTER OF GRAVITY SW = DN

01.3.1.007.00

CHECK UHF 1 AND 2 RADIOS WITH COMMAND POST AND GRD CONTROL

COMMUNICATE

CHECKLIST = SEQUENCE
PUSH-TO-TALK SWITCH
PILOT UHF COMM PANEL = 'RADIO CHECK'
AND COPILOT UHF COMM PANEL = 'RADIO CHECK'

01.3.1.008.00

CHECK PERSONAL GEAR AND ARRANGEMENT ABOARD THE A-V

CHECK

CHECKLIST = SEQUENCE
PERSONAL GEAR
PERSONAL GEAR = CHECKED

01.3.1.009.00

CHECK COMBAT MISSION FOLDER (CMF) CONTAINER IS SECURE*

	CHECKLIST	= SEQUENCE
CHECK	CMF CONTAINER*	
	CMF CONTAINER	= SECURE

01.3.1.010.00

PLACE APU MODE SWITCHES TO 'OFF' POSITION*

	CHECKLIST	= SEQUENCE
SET	LEFT APU MODE SWITCH	
	RIGHT APU MODE SWITCH	
	LEFT APU MODE SWITCH	= OFF
	AND RIGHT APU MODE SWITCH	= OFF

01.3.1.011.00

RETURN APU MODE SWITCHES TO 'RUN' POSITION*

	CHECKLIST	= SEQUENCE
SET	LEFT APU MODE SWITCH	
	RIGHT APU MODE SWITCH	
	LEFT APU MODE SWITCH	= RUN
	AND RIGHT APU MODE SWITCH	= RUN

01.3.1.012.00

SET BATT SWITCH TO 'ALERT-ARM' POSITION*

	CHECKLIST	= SEQUENCE
SET	BATTERY SELECT SWITCH	
	BATTERY SELECT SWITCH	= ALERT-ARM

OBJECTIVE: PERFORM DAILY ALERT PREFLIGHT

1.11

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. A/V cocked by flight crew

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP perform daily alert preflight
2. DSO performs daily alert preflight

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the FORM 781 indicates any outstanding discrepancies about the A/V and the stores configuration in the weapons bays.
2. Recall what should be inspected on a gravity weapon.
3. Recall what should be inspected on a SRAM.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 1.3.1.1
1.3.1.1.2
1.3.1.1.3
1.3.1.2
1.3.1.8
1.3.1.9

01.3.1.001.00

PERFORM EXTERIOR INSPECTION

CHECKLIST

= SEQUENCE

01.3.1.001.02

CHECK BOMB PRE FLIGHT ACCOMPLISHED BY MMS*

CHECKLIST

= SEQUENCE

CHECK

BOMB

BOMB

= PREFLIGHT

01.3.1.001.03

PERFORM EXTERIOR INSPECTION IN DETAIL*

CHECKLIST

= SEQUENCE

INSPECT

A-V EXTERIOR

A-V EXTERIOR

= INSPECTED

01.3.1.002.00

ASSUME CREW POSITIONS

A-V EXTERIOR

= INSPECTED

OCCUPY

AIR-VEHICLE

AIR-VEHICLE

= OCCUPIED

01.3.1.008.00

CHECK PERSONAL GEAR AND ARRANGEMENT ABOARD THE A-V

CHECKLIST

= SEQUENCE

CHECK

PERSONAL GEAR

PERSONAL GEAR

= CHECKED

01.3.1.009.00

CHECK COMBAT MISSION FOLDER (CMF) CONTAINER IS SECURE*

CHECKLIST

= SEQUENCE

CHECK

CMF CONTAINER*

CMF CONTAINER

= SECURE

OBJECTIVE: ROTATE CREWS

1.12

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. A/V cocked by previous flight crew

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO performs daily alert preflight
2. DSO performs daily alert preflight

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the FORM 781 indicates any outstanding discrepancies about the A/V and the stores configuration in the weapons bays.
2. Recall that all control surfaces should have complete freedom of movement.
3. Recall which access doors and covers should be secured and which should remain open until after the engines have been started.
4. Recall that the covers for the angle-of-attack vanes should be removed.
5. Recall which ground safety locks and pins, such as landing gear "downlocks", should remain installed until after the A/V has been recocked.
6. Recall how the OLOGS (Open Loop Oxygen Generating System) levers should be prior to recocking the A/V.
7. Recall that with the Nuclear Consent switch in NORM, the switch is in the off position.
8. Recall that when the APU mode switches are set to START they are held in that position until ignition-start has taken place.
9. Recall that holding the fuel and CG test switch to up or down will run the tapes of all fuel quantity, total fuel quantity, digital fuel quantity and center of gravity indicators to up or down corresponding to the switch position.
10. Recall that actuation of the APU mode switch to OFF provides an electrical signal to the APU control system to shutdown the APU

ENABLING OBJECTIVES: (continued)

but it leaves the inlet and exhaust doors open.

11. Recall that the APU mode switches are set in RUN to preposition them for remote APU start by actuation of the nosewheel alert start button.
12. Recall that selection of the "ALERT ARM" position allows the batteries to be automatically switched on by the nosewheel alert start button.
13. Recall that when the mode switch on the CSSC (Coded Switch Set Controller) is positioned to OPERATE, the CSSC operation cycle is initiated.
14. Recall that steady CODE and DISABLE lights indicate transmittal of a valid sum check code.

ANCILLARY OBJECTIVES:

1. Recall that the covers for the total temperature and pitot-static probes should be removed and the probes should be free of foreign material.
2. Recall that the APU mode switches will automatically move to the RUN position after ignition-start has taken place.
3. Recall that the APU's will continue to run until one of the self-contained APU parameter sensors initiate an automatic shutdown or the switches are placed in OFF or the APU STOP switch in the wheel well is depressed.
4. Recall that the CODE light will illuminate steady at the end of an operate cycle to indicate that the CSSC has transmitted a valid enable or sum check code to the code enabling switch.
5. Recall that steady CODE and ENABLE lights on the CSSC indicate transmittal of one of the six correct enable codes stored.
6. Recall that no light indications on the CSSC indicate transmittal of a wrong code.

OPERATOR: P/CP

TASK ELEMENTS: 1.3.2.1 1.3.2.2 1.3.2.3

01.3.2.001.00

PERFORM STORE STATION INSPECTION*

INSPECT

CHECKLIST

= SEQUENCE

STORES STATIONS

STORES STATIONS

= INSPECTED

01.3.2.002.00

PERFORM DAILY ALERT PREFLIGHT CHECKLIST*

PERFORM

CHECKLIST

= SEQUENCE

ALERT CHECKLIST

ALERT CHECKLIST

= COMPLETED

01.3.2.003.00

SET CSSC CONTROLS FOR OPERATIONAL TEST CHECK*

SET

CHECKLIST

= SEQUENCE

OPERATE; MONITOR SWITCH
LAMP TEST SWITCH-CODED SW

OR
DISENABLE INDICATOR
OR ENABLE INDICATOR

= ON
= ON

OBJECTIVE: ROTATE CREWS

1.13

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. A/V cocked by previous flight crew

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP perform daily alert preflight
2. DSO performs daily alert preflight

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the FORM 781 indicates any outstanding discrepancies about the A/V and the stores configuration in the weapons bays.
2. Recall what should be inspected on a gravity weapon.
3. Recall what should be inspected on a SRAM.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 1.3.2.1
1.3.2.2

01.3.2.001.00

PERFORM STORE STATION INSPECTION*

CHECKLIST

= SEQUENCE

STORES STATIONS

STORES STATIONS

= INSPECTED

01.3.2.002.00

PERFORM DAILY ALERT PREFLIGHT CHECKLIST*

CHECKLIST

= SEQUENCE

PERFORM

ALERT CHECKLIST

ALERT CHECKLIST

= COMPLETED

MISSION SEGMENT 2

OBJECTIVE: PREPARE TO ENTER AIR VEHICLE

2.1

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. A/V cocked by flight crew
 2. Klaxon sounds

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO prepares to enter A/V
 2. DSO prepares to enter A/V

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the alert start pushbutton activates the APU's, provides power to the entry ladder and turns on the ECS (Environmental Control System) and crew compartment lights.

ANCILLARY OBJECTIVES:

1. Recall that the "two-man" concept of AFR 122-4 is applicable and not less than two men may be in the vicinity of nuclear weapons. Therefore the first crewmember at the A/V will have to wait for a second crew member before proceeding to the nosewheel strut.
2. Recall that the crewmembers at the crew entry door can manually assist in lowering the ladder by pulling on the rungs.

OPERATOR: P/CP

TASK ELEMENTS: 2.1.1.1 2.1.1.4
 2.1.1.2 2.1.1.5
 2.1.1.3

02.1.1.001.00

RUN TO NOSE OF THE A-V

	KLAXON	= SOUNDS
RUN	A-V NOSE	
	A-V NOSEWHEEL STRUT	= MANNED*

02.1.1.002.00

RUN TO CREW MODULE ENTRY

	KLAXON	= SOUNDS
RUN	A-V CREW MODULE ENTRY*	
	A-V CREW MODULE ENTRY	= MANNED

02.1.1.003.00

PUSH ALERT START PUSH-BUTTON

	A-V NOSEWHEEL STRUT	= MANNED*
DEPRESS	ALERT START PUSH BUTTON*	
	ALERT START PUSH BUTTON	= DEPRESSED

02.1.1.004.00

PULL ENTRY LADDER RELEASE HANDLE TO 'POWER ASSIST'*

	ALERT START PUSHBUTTON	= DEPRESSED
PULL	LADDER RELEASE HANDLE	
	LADDER RELEASE HANDLE	= POWER ASSIST*

02.1.1.005.00

RUN TO A-V ENTRY*

	A-V ENTRY LADDER	= DOWN-LOCKED
RUN	A-V CREW MODULE ENTRY	
	A-V CREW MODULE ENTRY	= MANNED

OBJECTIVE: PREPARE TO ENTER AIR VEHICLE

2.2

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. A/V cocked by flight crew
2. Klaxon sounds

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP prepare to enter A/V
2. DSO prepares to enter A/V

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the alert start pushbutton activates the APU's, provides power to the entry ladder and turns on the ECS (Environmental Control System) and crew compartment lights.

ANCILLARY OBJECTIVES:

1. Recall that the "two-man" concept of AFR 122-4 is applicable and not less than two men may be in the vicinity of nuclear weapons. Therefore the first crewmember at the A/V will have to wait for a second crewmember before proceeding to the nosewheel strut.
2. Recall that the crewmembers at the crew entry door can manually assist in lowering the ladder by pulling on the rungs.

OPERATOR: OSO

TASK ELEMENTS: 2.1.1.1 2.1.1.4
2.1.1.2 2.1.1.5
2.1.1.3

02.1.1.001.00

RUN TO NOSE OF THE A-V

	KLAXON	= SOUNDS
RUN	A-V NOSE	
	A-V NOSEWHEEL STRUT	= MANNED*

02.1.1.002.00

RUN TO CREW MODULE ENTRY

	KLAXON	= SOUNDS
RUN	A-V CREW MODULE ENTRY*	
	A-V CREW MODULE ENTRY	= MANNED

02.1.1.003.00

PUSH ALERT START PUSH-BUTTON

	A-V NOSEWHEEL STRUT	= MANNED*
DEPRESS	ALERT START PUSH BUTTON*	
	ALERT START PUSH BUTTON	= DEPRESSED

02.1.1.004.00

PULL ENTRY LADDER RELEASE HANDLE TO 'POWER ASSIST'*

	ALERT START PUSHBUTTON	= DEPRESSED
PULL	LADDER RELEASE HANDLE	
	LADDER RELEASE HANDLE	= POWER ASSIST*

02.1.1.005.00

RUN TO A-V ENTRY*

	A-V ENTRY LADDER	= DOWN-LOCKED
RUN	A-V CREW MODULE ENTRY	
	A-V CREW MODULE ENTRY	= MANNED

OBJECTIVE: ENTER CREW STATIONS

2.3

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Flight crewmembers outside of A/V
2. Ladder in lowered position

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO enters crew station
2. DSO enters crew station

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the fore/aft seat adjustment lever is on the right side of the seat pan.
2. Recall in which order the seat belt and shoulder harness straps are inserted into the seat buckle.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	2.1.2.1	2.1.2.4
	2.1.2.2	2.1.2.5
	2.1.2.3	

02.1.2.001.00

ASCEND LADDER*

CLIMB

A-V ENTRY LADDER

= DOWN-LOCKED

A-V ENTRY LADDER

A-V CREW MODULE

= MANNED

02.1.2.002.00

PROCEED TO SEAT

WALK

A-V CREW MODULE

= MANNED

A-V SEATS

A-V SEATS

= MANNED

02.1.2.003.00

CLIMB INTO AND ADJUST SEAT

PUSH*

A-V SEATS

= MANNED

SEAT ADJUST LEVER

A-V SEATS

= ADJUSTED

02.1.2.004.00

BUCKLE AND ADJUST RESTRAINT HARNESS

CONNECT

A-V SEATS

= ADJUSTED

SEAT RESTRAINTS

SEAT RESTRAINTS

= CONNECTED*

02.1.2.005.00

PUT ON HEADGEAR

PLACE

SEAT RESTRAINTS

= CONNECTED

HEADGEAR*

HEADGEAR

= ON

OBJECTIVE: ENTER CREW STATIONS

2.4

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Flight crewmembers outside of A/V
2. Ladder in lowered position

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP enter crew station
2. DSO enters crew station

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the fore/aft seat adjustment lever is on the right side of the seat pan.
2. Recall in which order the seat belt and shoulder harness straps are inserted into the seat buckle.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 2.1.2.1 2.1.2.4
2.1.2.2 2.1.2.5
2.1.2.3

02.1.2.001.00

ASCEND LADDER*

CLIMB

A-V ENTRY LADDER	= DOWN-LOCKED
A-V ENTRY LADDER	
A-V CREW MODULE	= MANNED

02.1.2.002.00

PROCEED TO SEAT

WALK

A-V CREW MODULE	= MANNED
A-V SEATS	
A-V SEATS	= MANNED

02.1.2.003.00

CLIMB INTO AND ADJUST SEAT

PUSH*

A-V SEATS	= MANNED
SEAT ADJUST LEVER	
A-V SEATS	= ADJUSTED

02.1.2.004.00

BUCKLE AND ADJUST RESTRAINT HARNESS

CONNECT

A-V SEATS	= ADJUSTED
SEAT RESTRAINTS	
SEAT RESTRAINTS	= CONNECTED*

02.1.2.005.00

PUT ON HEADGEAR

PLACE

SEAT RESTRAINTS	= CONNECTED
HEADGEAR*	
HEADGEAR	= ON

OBJECTIVE: CHECK APU START STATUS

2.5

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Alert start pushbutton depressed
2. P/CP at flight station

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that when the APU run light is on, the APU is up to adequate speed to accept a load.
2. Recall the normal EGT range when the APU is running.
3. Recall the normal voltage and frequency range that indicates electrical power is sufficient for starting the engines.

ANCILLARY OBJECTIVES:

1. Recall that the APU run light will illuminate when an acceptable RPM is sensed.
2. Recall that the APU EGT gage is used for monitoring APU operation to facilitate load sequencing.
3. Recall that if high EGT is indicated, some load must be removed to prevent a potential APU shutdown.
4. Recall that the generator/bus voltage and frequency switch permits the selection of a generator, bus or battery power source.

OPERATOR: P/CP

TASK ELEMENTS: 2.1.2.6 2.1.2.6.2
2.1.2.6.1 2.1.2.6.3

02.1.2.006.00

CHECK APU START STATUS

	HEADGEAR	= ON
CHECK	APU PANEL	
	APU PANEL	= TBD
	AND VOLTAGE/FREQ SELECTOR SWITCH	= AUTO-ON

02.1.2.006.01

CHECK APU 'L RUN & R RUN' INDICATORS ARE GREEN

	HEADGEAR	= ON
CHECK	ANNUNCIATOR LGTS (L RUN, R RUN)	
	LEFT RUN LIGHT	= 'L RUN'
	AND RIGHT RUN LIGHT	= 'R RUN'

02.1.2.006.02

CHECK APU EXH TEMP INDICATORS

	LEFT RUN LIGHT	= 'L RUN'
	AND RIGHT RUN LIGHT	= 'R RUN'
CHECK	APU EXH TEMP GAGE	
	APU EXH TEMP GAGE	= TBD

02.1.2.006.03

MONITOR 'VOLTS' AND 'FREQ' INDICATORS ON ELECTRICAL PANEL*

	LEFT RUN LIGHT	= 'L RUN'
	AND RIGHT RUN LIGHT	= 'R RUN'
MONITOR-VISUAL	VOLTAGE METER	
	FREQUENCY METER	
	VOLTAGE METER	= 230
	AND FREQUENCY METER	= 400

OBJECTIVE: SET PARKING BRAKE

2.6

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Ready to start engines

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the brakes are locked in PARK by the actuation of the parking brake control switch after the toe operated brakes on the rudder pedals have been depressed.
2. Recall that the parking brake switchlight will illuminate PARKING when the parking brake is locked.

ANCILLARY OBJECTIVES:

1. Recall that the brakes will remain set until the toe operated brakes are depressed and then released.

OPERATOR: P/CP

TASK ELEMENTS: 2.1.2.7

02.1.2.007.00*

DEPRESS PARKING BRAKES THEN DEPRESS BRAKE CONTROL SWITCHLITE*

LEFT RUN LIGHT
AND RIGHT RUN LIGHT

= 'L RUN'
= 'R RUN'

DEPRESS

PARKING BRAKE
PARKING BRAKE CONTROL SWITCHLT

PARKING BRAKE = DEPRESSED
AND PARKING BRAKE CONTROL SWITCHLT = 'PARKING'

OBJECTIVE: PERFORM ENGINE START

2.7

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. APU's are operating
 2. Parking brakes are set

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that momentary selection of the engine start switch to START will allow the APU to bring the engine up to starting speed.
2. Recall that the start sequence may be initiated simultaneously on all four engines.
3. Recall that releasing the engine start switch allows it to return to RUN.
4. Recall the normal range of the engine instruments during the starting sequence.
5. Recall that actuation of the APU mode switch to OFF provides an electrical signal to the APU control system to shut down the APU, but it leaves the inlet and exhaust doors open.

ANCILLARY OBJECTIVES:

1. Recall that as the engine start switch is moved out of the OFF position, the engine power lever will be advanced to the setting commanded by the flight station throttle control.
2. Recall that moving the engine start switch to START will cause the hydraulic pumps to be depressurized, the non-essential loads to be cut off, ECS bleed air supply valves to be closed and the ADG(Accessory Drive Gearbox) torque converter to be filled with oil.
3. Recall that when starter cutout speed is reached, the oil will be drained automatically from the torque converter.

ANCILLARY OBJECTIVES: (continued)

4. Recall that with the engine start switch in RUN permits automatic sequencing for pressurization of the hydraulic pumps, opening of the ECS bleed air supply valves and return of electrical equipment to normal operating modes.
5. Recall that the APU's will continue to run until one of the self-contained APU parameter sensors initiate an automatic shutdown or the switches are placed in OFF or the APU STOP switch in the wheel well is depressed.

OPERATOR: P/CP

TASK ELEMENTS:
2.1.3.1
2.1.3.2
2.1.3.3

02.1.3.001.00*

PLACE ENGINE 1,2,3,4 SWITCHES TO 'START' POSITION*

VOLTAGE METER = 230
AND FREQUENCY METER = 400

SET

ENGINE START SWITCH

ENGINE START SWITCH = START

02.1.3.002.00*

MONITOR ENGINE START

ENGINE START SWITCH = START

MONITOR-VISUAL*

ENGINE START DISPLAYS

ENGINE START SWITCH = RUN

02.1.3.003.00*

SET APU MODE SWITCHES TO 'OFF'

ENGINE START SWITCH = RUN

SET

MODE SWITCHES

MODE SWITCHES = OFF

OBJECTIVE: MONITOR UHF COMMUNICATIONS

2.8

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. APU's are operating

CONCURRENT TASKS: 1. Perform engine start

INTERACTION TASKS: 1. OSO monitors UHF communications
2. DSO monitors UHF communications

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall how to decode a launch message.
2. Recall how to challenge and respond to any command messages.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 2.1.3.4
2.2.1.1
2.2.1.9

02.1.3.004.00

RECEIVE AND COPY COMMAND

COMMUNICATES

PILOTS UHF

= COMMUNICATES

PILOTS UHF

PILOTS UHF

= TAKE-OFF MESSAGE

PILOTS UHF

→ = TAKE-OFF MESSAGE

02.2.1.001.00

MAINTAIN COMMUNICATIONS WITH COMMAND POST

MONITOR-AUDITORY

PILOTS UHF

= TAKE-OFF MESSAGE

PILOTS UHF

PILOTS UHF

= MONITORED

02.2.1.009.00

RECEIVE INSTRUCTIONS TO LAUNCH

RECEIVE

PILOTS UHF

= 'LAUNCH'

PILOTS UHF

PILOTS UHF

= MESSAGE RECEIVED

OBJECTIVE: MONITOR UHF COMMUNICATIONS

2.9

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. APU's are operating

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP monitor UHF communications
2. DSO monitors UHF communications

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall how to decode a launch message.
2. Recall how to challenge and respond to any command messages.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 2.1.3.4
2.2.1.1
2.2.1.9

02.1.3.004.00

RECEIVE AND COPY COMMAND

COMMUNICATES

OSOS UHF

= COMMUNICATES

OSOS UHF

OSOS UHF

= TAKE-OFF MESSAGE

OSOS UHF

= TAKE-OFF MESSAGE

02.2.1.001.00

MAINTAIN COMMUNICATIONS WITH COMMAND POST

MONITOR-AUDITORY

OSOS UHF

= TAKE-OFF MESSAGE

OSOS UHF

OSOS UHF

= MONITORED

02.2.1.009.00

RECEIVE INSTRUCTIONS TO LAUNCH

RECEIVE

OSOS UHF

= 'LAUNCH'

OSOS UHF

OSOS UHF

= MESSAGE RECEIVED

OBJECTIVE: RESTART APU's

2.10

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Instructed to maintain cockpit alert

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that when the APU mode switches are set to START they are held in that position until ignition-start has taken place.
2. Recall that when the APU run light is on, the APU is up to adequate speed to accept a load.
3. Recall the normal EGT range when the APU is running.
4. Recall that the Voltage/Frequency rotary switch provides for the selection of a generator for a readout of voltage and frequency on adjacent gages.

ANCILLARY OBJECTIVES:

1. Recall that the APU mode switches will automatically move to the RUN position after ignition-start has taken place.
2. Recall that the APU run light will illuminate when an acceptable RPM is sensed.
3. Recall that the APU's will continue to run until one of the self-contained APU parameter sensors initiate an automatic shutdown or the switches are placed in OFF or the APU STOP switch in the wheel well is depressed.
4. Recall that if high EGT is indicated, some load must be removed to prevent a potential APU shutdown.
5. Recall that the generator/bus voltage and frequency switch permits the selection of a generator, bus or battery power source.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	2.2.1.2	2.2.1.4
	2.2.1.3	2.2.1.5

02.2.1.002.00*

RESTART APU, SELECT EITHER R OR L APU MODE SWITCH TO 'START'*

	PILOT UHF COMM PANEL	= TAKE-OFF MESSAGE*
	AND COPILOT UHF COMM PANEL	= TAKE-OFF MESSAGE
SET	LEFT APU MODE SWITCH	
	RIGHT APU MODE SWITCH	
	LEFT APU MODE SWITCH	= START
	OR RIGHT APU MODE SWITCH	= START

02.2.1.003.00*

CHECK APPROPRIATE APU 'RUN' INDICATOR LIGHT(S) GREEN

	LEFT APU MODE SWITCH	= START
	OR RIGHT APU MODE SWITCH	= START
CHECK	LEFT RUN LIGHT	
	RIGHT RUN LIGHT	
	LEFT RUN LIGHT	= 'L RUN'
	OR RIGHT RUN LIGHT	= 'R RUN'

02.2.1.004.00*

CHECK APPROPRIATE APU EXH. TEMP INDICATOR IN TOLERANCE

	LEFT RUN LIGHT	= 'L RUN'
	OR RIGHT RUN LIGHT	= 'R RUN'
CHECK	LEFT APU EXHAUST TEMP GAGE	
	RIGHT APU EXHAUST TEMP GAGE	
	LEFT APU EXHAUST TEMP GAGE	= TBD
	OR RIGHT APU EXHAUST TEMP GAGE	= TBD

02.2.1.005.00*

MONITOR ELECTRICAL INDICATORS AT '230 VAC' AND '400HZ'

	LEFT APU MODE SWITCH	= RUN
	OR RIGHT APU MODE SWITCH	= RUN
CHECK	VOLTAGE METER	
	FREQUENCY METER	
	VOLTAGE METER	= 230
	AND FREQUENCY METER	= 400

OBJECTIVE: PERFORM ENGINES SHUTDOWN

2.11

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Instructed to maintain cockpit alert
 2. APU's are operating

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall the normal range of the engine instruments during engine shutdown.
2. Recall that the engine start/run switches are lever-lock toggle switches requiring the handle be pulled out, releasing the lock, in order to reposition the switch into the off position.

ANCILLARY OBJECTIVES:

1. Recall that selecting the engine start/run switch to OFF will drive the engine power lever to OFF, independently of flight station throttle control lever position.

OPERATOR: P/CP

TASK ELEMENTS: 2.2.1.6
 2.2.1.7
 2.2.1.8

02.2.1.006.00*

SET ENGINE THROTTLES TO 'IDLE'

	CHECKLIST	= SEQUENCE
ADJUST	PRIMARY THROTTLE LEVERS-PI	
	PRIMARY THROTTLE LEVERS-PI	= IDLE

02.2.1.007.00*

MONITOR ENGINE SHUT DOWN

	PRIMARY THROTTLE LEVERS-PI	= IDLE
MONITOR-VISUAL	ENGINE INSTRUMENTS	
	ENGINE INSTRUMENTS	= TBD

02.2.1.008.00*

SET ENGINE START PANEL SWITCHES TO 'OFF'

	PRIMARY THROTTLE LEVERS-PI	= IDLE
SET	ENGINE START SWITCH	
	ENGINE START SWITCH	= OFF

MISSION SEGMENT 3

OBJECTIVE:

PRE TAXI-OPERATIONS

3.1

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Take-off configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. DSO read Pre-Taxi checklist

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that with the battery switch in the "AUTO/ON" position each battery is connected to its battery bus providing power for APU starting/fire warning and extinguishing, and other systems requiring DC power prior to air vehicle starting.
2. Recall that the fast erection cycle on the GSS control panel should not exceed 40 seconds. The normal platform erection sequence is approximately 3 minutes unless the ambient temperatures are low.
3. Recall that the SYNC indicator of the GSS indicates whether or not the platform directional gyro and the MAD are synchronized when in slaved mode.
4. Recall that the SET HEADING/SYNC switch provides a means of rapidly synchronizing the platform directional gyro and the MAD when operating in the slaved mode.
5. Recall that the LAT set switch must be positioned to the hemisphere in which the A/V is operating to provide the proper polarity for gyro drift correction.
6. Recall that the LAT set moving scale knob determines the rate of gyro drift correction in the DG mode and improves heading accuracy when in slaved mode.
7. Recall that the left and right horizontal stabilizer indicators provide separate and independent position readings from each side.
8. Recall that the moving pointer of the wing sweep indicator should coincide with the COMMAND INDEX MARKER.

9. Recall that the flaps are deflected 40 degrees down when the indicator points to DN.
10. Recall that the spoiler indicators will show blank when the spoilers are retracted.
11. Recall that all warning and caution lights should be off.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	3.1.1.1	3.1.2.3
	3.1.2.1	3.1.2.5
	3.1.2.2	3.1.2.7

03.1.1.001.00

REQUEST DEFENSIVE SYSTEM OPERATOR TO READ CHECKLIST

	PILOTS UHF	= TAKE-OFF MESSAGE
REQUEST	DSO READ CHECKLIST	
	DSO ICS	= ACKNOWLEDGES

03.1.2.001.00*

SET BATT SWITCH IN 'AUTO-ON' POSITION

	DSO CHECKLIST	= SEQUENCE
SET	BATTERY SELECT SWITCH*	
	BATTERY SELECT SWITCH	= AUTO-ON

03.1.2.002.00*

PUSH 'FAST ERECT' PUSHBUTTON ON GSS CONTROL PANEL

	DSO CHECKLIST	= SEQUENCE
DEPRESS	FAST ERECT PUSHBUTTON	
	FAST ERECT PUSHBUTTON	= DEPRESSED

03.1.2.003.00*

CHECK GYRO PLATFORM SYNCHRONIZATION ON GSS CONTROL PANEL

	DSO CHECKLIST	= SEQUENCE
CHECK	ROTARY SELECTOR SWITCH	
	SYNCHRONIZATION INDICATOR	
	LATITUDE SET SWITCH	
	ROTARY SELECTOR SWITCH	= SLAVED*
	AND LATITUDE SET SWITCH	= N

03.1.2.005.00*

CHECK FLIGHT CONTROL SURFACE POSITION INDICATORS

	DSO CHECKLIST	= SEQUENCE
CHECK	WING-SWEEP SURFACE POS IND	
	WING-SWEEP SURFACE POS IND	= T6D*

03.1.2.007.00*

CHECK WARNING-CAUTION LIGHTS FOR OPERATION AND SYSTEM STATUS

	DSO CHECKLIST	= SEQUENCE
CHECK	WARNING-CAUTION LIGHTS	
	WARNING-CAUTION LIGHTS	= OFF

OBJECTIVE:

PRE-TAXI OPERATIONS

3.2

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS:

1. Take-off configuration
2. Co-pilot request to DSO to read checklist

CONCURRENT TASKS:

INTERACTION TASKS:

DSO reads checklist

PERFORMANCE LIMITS:

1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the brightness control on the MFD provides a continuous variation of video signal level from a minimum to a maximum.
2. Recall that the cursor range on the FLR segments indicate range in increments of 100 feet.
3. Recall that for each INS alignment phase the appropriate lamp is lit when the phase starts and goes out when the phase is completed.
4. Recall that the COARSE indicator flashes four times per second while in the coarse alignment phase and turns steady when coarse leveling is entered.
5. Recall that all warning and caution lights should be off.
6. Recall the position of the door handles when the crew module door is closed.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS:

3.1.1.2

3.1.1.3.3

3.1.2.9

3.1.1.3

3.1.2.7

3.1.1.3.2

3.1.2.8

03.1.1.002.00*

READ AND VERIFY COMPLETION OF CHECKLIST ITEMS.*

	CO-PILOT ICS	= REQUESTS
READ*	CHECKLIST	
	CHECKLIST	= COMPLETED

03.1.1.003.00*

OBSERVE SYSTEM STATUS

ICS	= TBD*
-----	--------

03.1.1.003.02*

OBSERVE FLR OPERATIONAL STATUS

	CHECKLIST	= SEQUENCE
CHECK	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*
	AND CURSOR RANGE SEGMENT	= UN

03.1.1.003.03*

OBSERVE NAVIGATION SYSTEM OPERATIONAL STATUS

	NAVIGATION ANNUNCIATORS-1	= WM UP
	AND CHECKLIST	= SEQUENCE
CHECK	NAVIGATION ANNUNCIATORS-1	
	NAVIGATION ANNUNCIATORS-2	
	NAVIGATION ANNUNCIATORS-1	= FLASHING*
	AND NAVIGATION ANNUNCIATORS-2	= FLASHING

03.1.2.007.00*

CHECK WARNING-CAUTION LIGHTS FOR OPERATION AND SYSTEM STATUS

	DSO CHECKLIST	= SEQUENCE
CHECK	WARNING-CAUTION LIGHTS	
	WARNING-CAUTION LIGHTS	= OFF

03.1.2.008.00*

VERIFY CREW MODULE DOOR CLOSED

CHECK

CREW MODULE DOOR

= CLOSED & LOCKED

CREW MODULE DOOR

DSO ICS

= ACKNOWLEDGES*

03.1.2.009.00*

REPORT TO PILOT - 'READY TO TAXI'

REPORT

CHECKLIST

= COMPLETE

ICS

PILOT ICS

= ACKNOWLEDGES*

OBJECTIVE:

"PREPARE TO TAXI"

3.3

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Take-off configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. Pilot request DSO read taxi checklist

PERFORMANCE LIMITS: 1. Proper sequence
2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that the taxi light illuminates only one light for taxi.
2. Recall that the anti-collision mode illuminates the tail strobe light and two wing mounted strobe light assemblies.
3. Recall that the position light select switch in bright position provides maximum brightness to the seven position lights.
4. Recall that the position light mode select switch in steady position provides continuous illumination to the position lights.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 3.2.1.1 3.2.1.4
 3.2.1.3 3.2.1.5

03.2.1.001.00*

REQUEST DSO TO READ TAXI CHECKLIST

REQUEST

AIR-VEHICLE
CHECKLIST
DSO ICS
AND CHECKLIST

= READY TO TAXI

= ACKNOWLEDGES*
= INITIATED

03.2.1.003.00*

SET TO-LOG LT SWITCH TO 'TAXI'*

SET

DSO CHECKLIST
LANDING/TAXI LIGHT CONTROL SW
LANDING/TAXI LIGHT CONTROL SW = TAXI

= SEQUENCE

03.2.1.004.00*

SET ANTI CLSN LT SWITCH TO 'ANTI CLSN'*

SET

DSO CHECKLIST
ANTI-COLLISION CONTROL SWITCH
ANTI-COLLISION CONTROL SWITCH = ANTI CLSN

= SEQUENCE

03.2.1.005.00*

SET EXT POSITION LT SWITCHES (2) TO 'BRT' AND 'STEADY'

SET

DSO CHECKLIST
POSITION LIGHT SWITCH
POSITION LIGHT MODE SWITCH
POSITION LIGHT SWITCH
AND POSITION LIGHT MODE SWITCH

= SEQUENCE

= BRT
= STEADY

OBJECTIVE:

INITIATE TAXI

3.4

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Take-off configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the crew chief should stand far forward of the nose to be seen by the pilot through the thermal flashblindness window.
2. Recall that the parking brake is released by depressing the toe pedals and releasing the pressure.
3. Recall that the throttles will have to be advanced well beyond the normal taxi position to start the A/V moving and then be retarded to a generally stabilized condition.
4. Recall that there is a tendency to taxi faster than normal when vision is restricted. Therefore, at night, in particular when using the thermal flashblindness window, taxi speed should be monitored closely.

ANCILLARY OBJECTIVES:

1. Recall that at night it will be difficult to see the crew chief.
2. Recall that the nose gear steering will be restricted unless the slats are extended. Travel is cut down from $\pm 75^\circ$ to $\pm 15^\circ$ in the TAXI mode with the slats retracted.
3. Recall that the hot brake caution light will illuminate when the brake sensors determine a limiting temperature.

OPERATOR: P/CP

TASK ELEMENTS: 3.2.1.7 3.2.2.3
 3.2.2.1 3.2.2.4
 3.2.2.2 3.2.2.5

03.2.1.007.00*

TAXI ON CREW CHIEF'S SIGNAL

MONITOR-VISUAL

CRT TUBE DISPLAY-PILOT	= CREW CHIEF
CRT TUBE DISPLAY-PILOT	
AIR-VEHICLE	= READY TO TAXI
AND CRT TUBE DISPLAY-PILOT	= CREW CHIEF SIGNAL

03.2.2.001.00*

ENGAGE NOSE GEAR STEERING

SET

AIR-VEHICLE	= READY TO TAXI
AND CRT TUBE DISPLAY-PILOT	= CREW CHIEF SIGNAL
PIL STEER ENG-DISENG SWITCH	
PIL STEER ENG-DISENG SWITCH	= ENGAGE

03.2.2.002.00*

RELEASE PARKING BRAKES

DEPRESS

FLASHBLINDNESS WINDOW	= TAXIWAY IS CLEAR
PARKING BRAKE CONTROL SWITCHLT	
PARKING BRAKE CONTROL SWITCHLT= OFF	

03.2.2.003.00*

ADVANCE THROTTLES TO TAXI POWER LEVEL

ADJUST

PARKING BRAKE CONTROL SWITCHLT= OFF	
PRIMARY THROTTLE LEVERS-PI	
PRIMARY THROTTLE LEVERS-PI	= TBD

03.2.2.004.00*

DEPRESS TOE BRAKES MOMENTARILY TO CHECK BRAKING ACTION*

DEPRESS

CRT TUBE DISPLAY-PILOT	= A-V BEGINS TAXI
TOE BRAKES	
CRT TUBE DISPLAY-PILOT	= CONTINUES TAXI

03.2.2.005.00*

CONTINUE TO TAXI*

CRT TUBE DISPLAY-PILOT
AND HOT BRAKE CAUTION LIGHT

= A-V CONTINUE TAXI
= OFF

TRACK

CRT TUBE DISPLAY-PILOT
PRIMARY THROTTLE LEVERS-PI
PILOTS RUDDER PEDALS

CRT TUBE DISPLAY-PILOT

= CONTROLLED TAXI

OBJECTIVE:

"MONITORING UHF AND INSTRUMENTS WHILE TAXIING"

3.5

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Take-off configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that the "GO CODE" may be received at any time while taxiing.
2. Recall that the thermal flashblindness protection windows restrict visibility and extreme caution should be exercised to prevent a taxi mishap.

ANCILLARY OBJECTIVES:

1. Recall that if any hydraulic system pressure indicator falls below 2150 PSI, the HYDRAULIC caution light will illuminate.
2. Recall that if the hydraulic fluid level in system 1 and 4 falls below 6 gallons, or in systems 2 and 3 falls below 11 gallons, the hydraulic caution light will illuminate.

OPERATOR: P/CP

TASK ELEMENTS: 3.2.3.1
3.2.3.3

3.2.3.6

03.2.3.001.00*

MONITOR COMMUNICATIONS

	FLASHBLINDNESS WINDOW	= A-V TAXIING
MONITOR-AUDITORY	PILOTS UHF COPILOTS UHF	

03.2.3.003.00*

CHECK TAXI AREA CLEAR BY LOOKING THROUGH AUTOMATIC E-P WINDOW*

	FLASHBLINDNESS WINDOW	= TAXI LIGHTS ON
	AND FLASHBLINDNESS WINDOW	= ON TAXIWAY
CHECK	FLASHBLINDNESS WINDOW	
	FLASHBLINDNESS WINDOW	= TAXIWAY IS CLEAR

03.2.3.006.00*

MONITOR HYDRAULIC PANEL QUANTITY AND PRESSURE GAUGES

	FLASHBLINDNESS WINDOW	= A-V TAXIING
MONITOR-VISUAL	HYDRAULIC QUANTITY INDICATORS HYDRAULIC PRESSURE INDICATORS	

OBJECTIVE:

"SECURE RESTRAINTS AND REMOVE SAFETY PINS"

3.6

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Take-off configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO & DSO secure seat restraints and remove ejection pins.
2. DSO computes take-off data.

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall the order of attaching the shoulder harness straps, seat straps, etc., to the seat buckle.

ANCILLARY OBJECTIVES:

1. Recall that the ejection pins are ground safety pins that must be removed or ejection cannot be accomplished.

OPERATOR: P/CP

TASK ELEMENTS: 3.2.3.4
3.2.3.5

03.2.3.004.00*

SECURE SEAT RESTRAINTS*

ADJUST

CHECKLIST

= SEQUENCE

RESTRAINT ASSY

RESTRAINT ASSY

= TBD

03.2.3.005.00*

REMOVE EJECTION PINS*

REMOVE

CHECKLIST

= SEQUENCE

EJECTION PINS

EJECTION PINS-PIL
AND EJECTION PINS-COP

= OUT
= OUT

OBJECTIVE:

"STEER A/V ONTO RUNWAY"

3.7

CRITICALITY: 3 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Take-off configuration

CONCURRENT TASKS:

INTERACTION TASKS:

1. OSO and/or DSO verified command message.
2. OSO communicate with pilot to determine A/V position relative to end of runway.
3. OSO receive "MARK" command from pilot to initiate end of runway update.

PERFORMANCE LIMITS: 1. Proper sequence.

ENABLING OBJECTIVES:

1. Recall that the command message will have to be authenticated before it can be executed.
2. Recall that a minimum distance of 200 feet should be maintained from the preceding aircraft.
3. Recall that the attitude of the A/V displayed on the VSD should correlate with the presentation on the SADI(standby attitude director indicator).
4. Recall that the departure course should be set into the HSI.
5. Recall that the runway heading should be set into the HSI and it should check with the actual aircraft heading when aligned on the runway.
6. Recall that the altimeter should indicate field elevation when the local altimeter setting has been set into the VSD and standby altimeter.

ANCILLARY OBJECTIVES:

1. Recall that at night judging A/V separation distances and obstruction distances will be difficult when looking through the thermal flash-blindness window.
2. Recall that nosewheel steering will remain in the TAXI position until the A/V has been aligned on the runway.

OPERATOR: P/CP

TASK ELEMENTS: 3.2.4.1
3.2.4.2.2
3.2.4.5
3.2.4.6

03.2.4.001.00*

VERIFY COMMAND MESSAGE

PILOTS UHF
AND COPILOTS UHF

= TBD*
= TBD

COMMUNICATE

PILOTS UHF
ICS

ICS

= CONFIRMS*

03.2.4.002.02*

MAINTAIN AIRCRAFT CLEARANCE*

MONITOR-VISUAL

CRT TUBE DISPLAY-PILOT

= A-V ON TAXIWAY

CRT TUBE DISPLAY-PILOT

CRT TUBE DISPLAY-PILOT

= A-V ON RUNWAY

03.2.4.005.00*

CHECK FLIGHT INSTRUMENTS AND SET AS REQUIRED

DSO CHECKLIST

= SEQUENCE

CHECK

VERTICAL SITUATION DISPLAY
AIRSPEED-MACH NUMBER INDICATOR
ALTITUDE-VERTICAL VELOCITY IND

VERTICAL SITUATION DISPLAY = TBD
AND ALTITUDE-VERTICAL VELOCITY IND= TBD

03.2.4.006.00*

STEER A-V ONTO RUNWAY*

CRT TUBE DISPLAY-PILOT

= A-V TAXIING

TRACK

PILOTS RUDDER PEDALS

CRT TUBE DISPLAY-PILOT

= A-V ON RUNWAY

OBJECTIVE:

"EXECUTE GROUND FLR UPDATE

3.8

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Take-off configuration

CONCURRENT TASKS:

INTERACTION TASKS:

1. P/CP verify authentication of command message.
2. P/CP communicate with OSO to determine A/V position relative to end of runway.
3. P/CP communicate "Mark" to OSO to initiate end of runway update.

PERFORMANCE LIMITS: 1. Proper sequence.

ENABLING OBJECTIVES:

1. Recall that the command message will have to be authenticated before it can be executed.
2. Recall that the enter pushbutton will illuminate by software control when the selected data can be entered.

ANCILLARY OBJECTIVES:

1. Recall that the A/V should be at the end of the runway before the update is accomplished or else a correction to the runway coordinates must be made prior to depressing the "ENTER" pushbutton switch.
2. Recall that the alpha-numeric pushbuttons on the integrated keyboard will be used to modify the position of the air vehicle from the stored runway coordinates.

OPERATOR: OSO

TASK ELEMENTS: 3.2.4.1
3.2.4.3
3.2.4.4

03.2.4.001.00*

VERIFY COMMAND MESSAGE

PILOTS UHF
AND COPILOTS UHF

= TBD*
= TBD

COMMUNICATE

PILOTS UHF
ICS

ICS

= CONFIRMS*

03.2.4.003.00*

DETERMINE A-V POSITION ON END OF RUNWAY (ICS WITH PILOT)

PILOT ICS

= COUNTDOWN*

COMMUNICATE*

ICS

PILOT ICS

= 'MARK'*

03.2.4.004.00*

ENTER END OF RUNWAY UPDATE*

PILOT ICS

= 'MARK'*

DEPRESS

ENTER PB

ENTER PR

= DEPRESSED

MISSION SEGMENT 4

OBJECTIVE: PERFORM PRE-T.O. CHECKS

4.1

CRITICALITY: 3 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Takeoff configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO also check caution-warning lights

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the yellow command index marker and the wing sweep position pointer should be coincident at the desired take-off setting.
2. Recall that when the slats indicator displays EXD, the slats are in the completely extended position.
3. Recall that when the flaps indicator displays DN, the flaps are set at the full down (40 degs) position.
4. Recall that in the PITOT HEAT position heater elements in the CADS pilot heat, total temperature probe and angle of attack sensor are energized.
5. Recall that when the TTO light is on, all trim actuators have been positioned to predetermined positions, the spoilers (speed brakes) are closed, and the PITCH TRIM PWR switch is not in standby.
6. Recall that the authority of the nosewheel steering is reduced to less than one-half when the steering mode control is switched from TAXI to TO/LDG.

ANCILLARY OBJECTIVES:

1. Recall that the spoiler indicators will change from blank to UP as soon as the spoilers move out of the fully retracted positions.
2. Recall that the master caution light will start flashing when one of the director lights on the Flight Station Caution Panel and Flight Instrument Failure Panel starts flashing.

2.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	4.1.1.1	4.1.1.4	4.1.2.3
	4.1.1.2	4.1.2.1	
	4.1.1.3	4.1.2.2	

04.1.1.001.00*

CHECK FLAPS, SLATS, AND WING SWEEP FOR TAKE-OFF.

CHECKLIST = SEQUENCE

CHECK

WING SWEEP POSITION INDICATOR
FLAP POSITION INDICATOR
SLATS POSITION INDICATOR

WING SWEEP POSITION INDICATOR = TBD
AND SLATS POSITION INDICATOR = TBD

04.1.1.002.00*

DEPRESS 'TRIM FOR TAKE-OFF' (TTO) PUSH BUTTON

AIR-VEHICLE = HOLD LINE

DEPRESS

TRIM FOR TAKEOFF (TTO) SWITCH

TRIM FOR TAKEOFF LIGHT = 'TTO'

04.1.1.003.00*

CHECK SPEED BRAKES RETRACTED

CHECKLIST = SEQUENCE

CHECK

LEFT SPOILER EM INDICATORS*
SPOILER INDICATORS

LEFT SPOILER EM INDICATORS = BLANK
AND SPOILER INDICATORS = BLANK

04.1.1.004.00*

SET PITOT HEAT CONTROL SWITCH TO 'PITOT HEAT' POSITION

CHECKLIST = SEQUENCE

SET

PITOT HEAT CONTROL SWITCH = PITOT HEAT

04.1.2.001.00*

CHECK CAUTION-WARNING PANELS

A-V = RNWY THRESHOLD

CHECK

CAUTION-WARNING LIGHTS

CAUTION-WARNING LIGHTS = BLANK

04.1.2.002.00*

PLACE NOSEWHEEL STEERING SWITCH TO 'TO-LDG' POSITION*

CHECKLIST = COMPLETED
AND A-V = ALIGNED

SET

STEERING MODE CONTROL SWITCH*

STEERING MODE CONTROL SWITCH = TO-LDG

04.1.2.003.00*

MONITOR COMMUNICATIONS*

MONITOR-AUDITORY

AIR-VEHICLE

= READY FOR T.O.

PILOT UHF COMM PANEL

COPILOT UHF COMM PANEL

PILOT UHF COMM PANEL
AND COPILOT UHF COMM PANEL

= MONITOR AUDITORY

= MONITOR AUDITORY

OBJECTIVE: PERFORM PRE-T.O. CHECKS

4.2

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Takeoff configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP check caution-warning lights.

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall what caution-warning lights constitute a non-takeoff situation.

ANCILLARY OBJECTIVES:

1. *Recall* that the CITS mode switch has 12 positions some of which are used in flight only and others for ground operation only.
2. *Recall* that a separate dedicated keyboard to CITS is used to allow entry of numerically coded data into the computer.
3. *Recall* that a matrix of 50 switch indicators are used to identify failures and allow selection of subsystems for display of failure information.
4. *Recall* that the 50 switch indicators are split-screen indicators. The upper half identifies a failure and the lower half indicates the availability of α -N display messages.
5. *Recall* that a 20-character α -N readout is provided for display of CITS data.

OPERATOR: OSO

TASK ELEMENTS: 4.1.2.1

04.1.2.001.00*

CHECK CAUTION-WARNING PANELS

CHECK

A-V

= RNWY THRESHOLD

CAUTION-WARNING LIGHTS

CAUTION-WARNING LIGHTS

= BLANK

OBJECTIVE: INITIATE TAKE-OFF

4.3

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Take-off configuration
 2. A/V at end of runway
 3. Minimum internal take-off

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall the normal range of engine parameters at immediate thrust.
2. Recall the normal range of engine parameters at maximum thrust.
3. Recall A-V separation limits for various take-off conditions.

ANCILLARY OBJECTIVES:

1. Recall that take-off should be aborted if engine parameters are out of tolerance.

OPERATOR: P/CP

TASK ELEMENTS: 4.2.1.1
 4.2.1.2
 4.2.1.3
 4.2.1.4
 4.2.1.5

04.2.1.001.00*

MONITOR POSITION OF PRECEDING A-V

MONITOR-VISUAL

PRIMARY THROTTLE LEVERS-PI = READY TO ADVANCE
A-V WINDOWS
VERTICAL SITUATION DISPLAY
A-V WINDOWS = A-V SEPARATION
AND VERTICAL SITUATION DISPLAY = A-V SEPARATION

04.2.1.002.00*

ADVANCE THROTTLES TO INTERMEDIATE POSITION

ADJUST

STEERING MODE CONTROL SWITCH = TO-LOG
PRIMARY THROTTLE LEVERS-PI
POWER LEVEL INDICATOR = TBD*

04.2.1.003.00*

CHECK ENGINE INSTRUMENTS

CHECK

POWER LEVEL INDICATOR-ENG #1 = TBD
ENGINE INSTRUMENTS
ENGINE INSTRUMENTS = TBD*

04.2.1.004.00*

ADVANCE THROTTLES TO MAXIMUM POWER

ADJUST

ENGINE INSTRUMENTS = TBD
PRIMARY THROTTLE LEVERS-PI
PRIMARY THROTTLE LEVERS-PI = MAX POSITION

04.2.1.005.00*

CHECK ENGINE INSTRUMENTS FOR PERFORMANCE ASSESSMENT

CHECK

PRIMARY THROTTLE LEVERS-PI = MAXIMUM
ENGINE INSTRUMENTS
ENGINE INSTRUMENTS = TBD

OBJECTIVE: PERFORM TAKE-OFF

4.4

CRITICALITY: 3 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Take-off configuration
 2. Power at maximum thrust

CONCURRENT TASKS:

INTERACTION TASKS: 1. DSO starts acceleration check.
 2. DSO announces S1 time.

PERFORMANCE LIMITS: 1. Directional alignment - TBD (\pm feet) of runway centerline
 2. Rotation speed - TBD (\pm kts)
 3. Unstick speed - TBD (\pm kts)
 4. Take-off angle of attack TBD (\pm degs)
 5. Bank angle TBD (\pm degs)

ENABLING OBJECTIVES:

1. Recall normal range and limits of engine parameters at maximum thrust.
2. Recall correct AOA - 8 degrees.
3. Recall that tail of A-V will strike runway if angle of attack is greater than 10 degs.

ANCILLARY OBJECTIVES:

1. Recall various conditions under which take-off should be aborted prior to decision speed.
 - A. Engine caution light ON
 - B. S1 < TBD within TBD secs after 80 kts.
 - C. Any engine parameter out of tolerance.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	4.2.5.4	4.2.3.4	4.2.4.1	4.2.5.1
	4.2.2.2	4.2.3.5	4.2.4.2	4.2.5.2
			4.2.4.3	4.2.5.3

04.2.5.004.00*

DISENGAGE NOSEWHEEL STEERING*

	A-V	= TBD SPEED
DISENGAGE	PIL STEER ENG-DISENG SWITCH	
	PIL STEER ENG-DISENG SWITCH	= DISENGAGE
	AND NOSEWHEEL STEERING CAUTION LT	= OFF

04.2.2.002.00*

MAINTAIN A-V ALIGNMENT ON RUNWAY WITH RUDDERS*

	PIL STEER ENG-DISENG SWITCH	= DISENGAGE
USE	PILOTS RUDDER PEDALS	
	AIR-VEHICLE	= ALIGNED

04.2.3.004.00*

NOTIFY CREW OF DECISION TO CONTINUE TAKE-OFF

	DSD ICS	= TRANSMITS*
COMMUNICATE*	PUSH-TO-TALK SWITCH-PILOT	
	AMI-PILOT	= S1
	AND ENGINE INSTRUMENTS	= TBD

04.2.3.005.00*

MONITOR ENGINE PERFORMANCE

MONITOR-VISUAL

AMI-PILOT = S1

ENGINE INSTRUMENTS

ENGINE INSTRUMENTS = TRD

04.2.4.001.00*

ANNOUNCE ROTATION SPEED TO PILOT

COMMUNICATE*

AMI-COPILOT = S2 MINUS 15 KTS

PUSH-TO-TALK SWITCH-COPILOT

AMI-COPILOT

PILOT ICS = TRANSMITS

04.2.4.002.00*

APPLY BACK PRESSURE ON CONTROL STICK

PULL

AMI-PILOT = S2 MINUS 15*
AND CO-PILOT ICS = TRANSMITS

PILOTS FLIGHT CONTROL STICK

A-V = ROTATE

04.2.4.003.00*

ANNOUNCE UNSTICK SPEED (S2)

COMMUNICATE

AMI-COPILOT = S2

PUSH-TO-TALK SWITCH-COPILOT

AMI-COPILOT

PILOT ICS = TRANSMITS*

04.2.5.001.00*

ESTABLISH PROPER PITCH ANGLE FOR LIFTOFF

POSITION

AIR-VEHICLE = ROTATE

PILOTS FLIGHT CONTROL STICK

PITCH SCALE-PILOT

PITCH SCALE-PILOT = TRD

04.2.5.002.00*

MAINTAIN PROPER PITCH ANGLE FOR LIFTOFF*

PITCH SCALE-PILOT = TBD

MAINTAIN

PITCH SCALE-PILOT

PITCH SCALE-PILOT = TBD MAINTAINED
AND PILOTS FLIGHT CONTROL STICK = POSITIONED

04.2.5.003.00*

MAINTAIN LATERAL AND DIRECTIONAL CONTROL*

AIR-VEHICLE = AIRBORNE

MAINTAIN

HSI-PILOT = TBD
AND PILOTS FLIGHT CONTROL STICK = POSITIONED

MISSION SEGMENT 5

5.1

CRITICALITY: 3

DIFFICULTY: 2

INITIAL CONDITIONS:

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall speed before which landing gear must be retracted.

ANCILLARY OBJECTIVES:

1. Recall that the boost pump caution light may illuminate when fuel flow exceeds 75,000 pounds per hour during certain flight conditions.

OPERATOR: P/CP

TASK ELEMENTS:

5.1.2.1

5.1.1.2

5.1.2.1.1

5.1.1.3

5.1.2.1.2

5.1.1.4

5.1.2.1.3

05.1.1.001.00*

DETERMINE AIRCRAFT SAFELY AIRBORNE

	CRT TUBE DISPLAY-PILOT	= A-V LIFT-OFF
MONITOR-VISUAL	AVVI-PILOT AMI-PILOT	
	AVVI-PILOT	= TBD
	AND AMI-PILOT	= TBD

05.1.1.002.00*

RETRACT LANDING GEAR

	PILOT ICS	= 'GEAR UP'
RAISE	PRIMARY LANDING GEAR CONTROL	
	GEAR WARNING LIGHTS	= BLANK
	AND PRIMARY LANDING GEAR CONTROL	= UP

05.1.1.003.00*

ACCELERATE TO TBD KTS (INITIAL E-S RETRACT SPD) MAINTAIN HDG

	CO-PILOT ICS	= 'GEAR UP'*
	AND GEAR WARNING LIGHTS	= BLANK
ADJUST	PILOTS FLIGHT CONTROL STICK	
	AMI-PILOT	= TBD
	AND HSI-PILOT	= TBD

05.1.1.004.00*

ADJUST TRIM SWITCH AS REQUIRED*

	AMI-PILOT	= TBD
	AND AVVI-PILOT	= TBD
ADJUST	PLT TRIM SW (ON CONTR STICK)	
	PILOTS FLIGHT CONTROL STICK	
	PILOTS FLIGHT CONTROL STICK	= NEUTRAL PRESSURE

05.1.2.001.00*

INITIATE FLAP-SLAT RETRACTION CYCLE*

	AMI-PILOT	= TBD
	AND AVVI-PILOT	= TBD
INITIATE	FLAP-SLAT CONTROL HANDLE	

05.1.2.001.01*

MONITOR IAS FOR FLAP LIMIT SPEED*

AMI-PILOT
AND AVVI-PILOT

= TBD
= TBD

MONITOR-VISUAL

AMI-PILOT

AMI-PILOT

= TBD SCHEDULE

05.1.2.001.02*

SET FLAP-SLAT LEVER TO 'UP' THEN 'RET'

AMI-PILOT
AND AVVI-PILOT

= TBD
= TBD

SET

FLAP-SLAT CONTROL HANDLE

FLAP-SLAT CONTROL HANDLE
AND FLAP-SLAT CONTROL HANDLE

= FLAP UP
= SLAT

05.1.2.001.03*

MONITOR FLAP-SLAT INDICATOR

FLAP-SLAT CONTROL HANDLE
AND FLAP-SLAT CONTROL HANDLE

= FLAP UP
= SLAT RET

MONITOR-VISUAL

FLAP POSITION INDICATOR
SLATS POSITION INDICATOR

FLAP POSITION INDICATOR
AND SLATS POSITION INDICATOR

= UP
= 'RET'

OBJECTIVE: PERFORM CLIMB

5.2

CRITICALITY: 3 DIFFICULTY: 2

INITIAL CONDITIONS: 1. Climb configuration

CONCURRENT TASKS: 1. Monitor engine performance parameters

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm kts)
 2. Altitude - TBD (\pm ft)
 3. Heading - TBD (\pm degrees)
 4. Rate of climb - TBD (\pm ft/min)

ENABLING OBJECTIVES:

1. Calculate optimum wing sweep angle for climb.
2. Calculate power level setting for climb.
3. Coordinate control stick and rudders to maintain climb attitude, departure heading, and best climb speed.
4. Recall the specific departure procedures to be followed during climb.
5. Calculate best climb speed.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 5.1.2.3 5.1.3.1
 5.1.2.4 5.1.3.2
 5.1.2.5
 5.1.2.6

05.1.2.003.00*

SET WING SWEEP FOR BEST CLIMB

SET

FLAP-SLAT CONTROL HANDLE = FLAP UP*
AND SLATS POSITION INDICATOR = 'RET'

PILOTS WING SWEEP HANDLE

PILOTS WING SWEEP HANDLE = TBD
AND WING SWEEP POSITION INDICATOR = TBD

05.1.2.004.00*

ACCELERATE TO TBD IAS AND MAINTAIN THROUGHOUT CLIMB*

MONITOR-VISUAL

FLAP POSITION INDICATOR = UP
AND SLATS POSITION INDICATOR = 'RET'

AMI-PILOT

AMI-PILOT = TBD

05.1.2.005.00*

ADJUST TRIM AS REQUIRED*

ADJUST

FLAP POSITION INDICATOR = UP
AND SLATS POSITION INDICATOR = 'RET'

PLT TRIM SW (ON CONTR STICK)
PILOTS FLIGHT CONTROL STICK

PILOTS FLIGHT CONTROL STICK = NEUTRAL PRESSURE

05.1.2.006.00*

MAINTAIN DEPARTURE HEADING(S) AND BEST CLIMB SPEED*

ADJUST

FLAP POSITION INDICATOR = UP
AND SLATS POSITION INDICATOR = 'RET'

PILOTS FLIGHT CONTROL STICK
PILOTS RUDDER PEDALS

HSI-PILOT = TBD
AND AMI-PILOT = TBD

05.1.3.001.00*

SET THROTTLES TO CLIMB POWER*

ADJUST

FLAP POSITION INDICATOR = UP
AND AMI-PILOT = TBD

PRIMARY THROTTLE LEVERS-CO

PRIMARY THROTTLE LEVERS-CO = TBD
AND POWER LEVEL INDICATOR = TBD

05.1.3.002.00*

MONITOR ENGINE INDICATORS

MONITOR-VISUAL

PRIMARY THROTTLE LEVERS-CO	= TBD
ENGINE INSTRUMENTS	
ENGINE INSTRUMENTS	= TBD
AND PRIMARY THROTTLE LEVERS-CO	= TBD

OBJECTIVE: CLIMBOUT

5.3

CRITICALITY: 2 DIFFICULTY: 2

INITIAL CONDITIONS:

1. Cruise configuration
2. Power level for climb - TBD
3. Vertical velocity - TBD

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO checklist executed concurrently

PREFORMANCE LIMITS:

1. Proper sequence
2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that with the anti-icing switch set to AUTO an electronic link is made between the ice detectors and the engine anti-ice bleed air valves providing automatic initiation of the anti-ice cycle.
2. Recall that the pitch and roll trim switches in NORM provides primary pitch and roll, respectively, trim power for pitch trim commands from either the pilot's or copilot's coolie-hat switch on the flight control stick. Both speed stability and AFCS auto trim are also provided.
3. Recall that the yaw trim switch in NORM provides primary yaw trim power for yaw trim commands from either the pilot's or copilot's FLT CONT TRIM panels.
4. Recall that the landing light switch will be moved downward to the center (OFF) position.
5. Recall the fuel sequencing schedule and determine whether the fuel used since takeoff has been from the proper tanks.
6. Recall that if the cabin altitude indicates above 10,000 feet when the A/V passes through 12,000 feet, the crew compartment isn't being pressurized properly.
7. Recall that when an AFCS transfer of command is made, the AFCS will revert to the basic ENGAGE mode if AFCS is engaged, except for the TER FLW and AUTO THROT.
8. Recall that the pilot's TAKE COMD switchlight will be green and the copilot's TAKE COMD switchlight will be white.

ENABLING OBJECTIVES: (continued)

9. Recall that when ENGAGE is depressed both the pilot's and copilot's green ENGAGE lights will illuminate.
10. Recall that in ENGAGE, the basic AFCS mode of flight path hold in the pitch axis and attitude hold in the roll axis is engaged.
11. Recall that when the MACH HOLD mode is engaged the mach number existing at the time of engagement will be maintained.

ANCILLARY OBJECTIVES:

1. Recall that if the anti-ice switch is set to "MAN" specific fuel consumption is increased because the anti-ice bleed air valves stay open.
2. Recall that the ANTI-ICE AIR ON advisory light will come on whenever the engine anti-ice bleed valves are open.
3. Recall that control stick steering is available in the basic AFCS mode. Any control stick movement beyond 0.25 inch will provide control stick steering.
4. Recall that the engage mode may be deactivated only by depressing the trigger switch on the control stick to the second detent.
5. Recall that in MACH HOLD the mach number is maintained by a change in air vehicle attitude and not by throttle changes.
6. Recall that the mach number reference may be changed by depressing the trigger switch on the control stick to the first detent and holding it until the new mach number is attained before releasing the trigger switch.
7. Recall that the mach hold mode is not compatible with the AUTO THROT, ALT or A/S modes.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u> 5.2.1.1	5.2.1.10
5.2.1.2	5.2.1.11
5.2.1.7	5.2.1.12
5.2.1.8	5.2.1.13
5.2.1.9	5.2.1.14

05.2.1.001.00*

CHECK ANTI-ICING SWITCH SET TO 'AUTO'*

	DSD CHECKLIST	= SEQUENCE
CHECK	ENGINE ANTI-ICE SWITCH	
	ENGINE ANTI-ICE SWITCH	= AUTO

05.2.1.002.00*

CHECK PITCH, ROLL AND YAW TRIM SWITCHES ARE SET IN 'NORM'*

	DSD CHECKLIST	= SEQUENCE
CHECK	PITCH TRIM SWITCH	
	ROLL TRIM SWITCH	
	YAW TRIM SWITCH	
	PITCH TRIM SWITCH	= NORM
	AND YAW TRIM SWITCH	= NORM

05.2.1.007.00*

SET LANDING LIGHT SWITCHES TO 'OFF'.

	DSD CHECKLIST	= SEQUENCE
SET	LANDING/TAXI LIGHT CONTROL SW	
	LANDING/TAXI LIGHT CONTROL SW	= OFF

05.2.1.008.00*

CHECK FUEL DISTRIBUTION IN ALL TANKS

	CLIMBOUT CHECKLIST	= SEQUENCE
CHECK	FUEL MGT PANEL	
	FUEL MGT PANEL	= TBD*

05.2.1.009.00*

CHECK CABIN PRESSURE ALTITUDE DOES NOT EXCEED 10,000 FEET

	CHECKLIST	= PASSING 12000 FT
CHECK	CABIN PRESS ALT INDICATOR	
	CABIN PRESS ALT INDICATOR	= 8000 FT*

05.2.1.010.00*

SET 'BARD SET' KNBS ON AVVI, STDBY ALT, AFT A-S, & ALT TO 29.92

CHECKLIST = PASSING 18000 FT

SET ALTITUDE-VERTICAL VELOCITY IND
AIRSPEED-ALTITUDE INDICATOR
BAROMETRIC SETTING KNOB

ALTITUDE-VERTICAL VELOCITY IND = 29.92
AND BAROMETRIC SCALE COUNTER = 29.92

05.2.1.011.00*

CONFIRM PILOT'S COMMAND OF AFCS*

AMI-PILOT = TBD

CHECK PILOTS TAKE COMMAND PUSHBUTTON

PILOTS TAKE COMMAND PUSHBUTTON = 'TAKE CMD'-G

05.2.1.012.00*

DEPRESS AFCS 'ENGAGE' MODE

PILOTS TAKE COMMAND PUSHBUTTON = 'TAKE CMD'-G
AND COPLTS TAKE COMMAND PUSHBUTTON = 'TAKE CMD'-W

DEPRESS PILOTS ENGAGE PUSHBUTTON

PILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-G*
AND COPILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-G

05.2.1.013.00*

DEPRESS AFCS 'MACH HOLD' PUSHBUTTON SWITCHLIFE*

PILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-G
AND COPILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-G

DEPRESS PLTS MACH (MACH HOLD) PSHBTN

PLTS MACH (MACH HOLD) PSHBTN = 'MACH'-G
AND CPLTS MACH (MACH HOLD) PSHBTN = 'MACH'-G

05.2.1.014.00*

CONFIRM PROPER IFF-SIF CODE SET

CHECKLIST = SEQUENCE

OBSERVE MODE 1 CODE SELECT THUMBWHEELS
MODE 3-A CODE SELECT THUMBWHEELS

MODE 1 CODE SELECT THUMBWHEELS = TBD
AND MODE 3-A CODE SELECT THUMBWHEELS = TBD

OBJECTIVE: CLIMBOUT

5.4

CRITICALITY: 3 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Power level for climb - TBD
3. Vertical velocity - TBD

CONCURRENT TASKS:

INTERACTION TASKS: 1. Pilot checklist executed concurrently.

PERFORMANCE LIMITS: 1. Proper sequence
2. Proper Instrument Indications

ENABLING OBJECTIVES:

1. Recall that the best navigation information will be available with the doppler in operation until the INs have warmed up and completed both coarse and fine alignment phases.
2. Recall that the selection of the bearing and heading sources for the BDHI is made at the front station.
3. Recall that the #1 needle is the relative bearing indicator for the TACAN. The #2 needle is either the bearing to a NAV checkpoint as selected by the ACU, or a bearing to a UHF/ADF station.
4. Recall how to set the FLR so the CRT displays the optimum presentation during the climb.
5. Recall how to set the MFD in the LR mode for the optimum presentation during the climb.
6. Recall that time is entered in MISNT via IKB by keying in a future time and then depressing the ENTER switch when future time and actual time are coincident.

ANCILLARY OBJECTIVES:

1. Recall that the solid line on the indicator's sphere represents the real world horizon. The scale at the bottom indicates the aircraft's roll attitude in degrees.
2. Recall that the compass card in the BDHI can be driven either by the inertial platform (NAV) or by the gyro stabilization system (GSS).
3. Recall that the elapsed time capability of the clock is only one hour.

J
OPERATOR: OSO

TASK ELEMENTS:

5.2.1.3

5.2.1.4

5.2.1.6

05.2.1.003.00*

SET DOPPLER SWITCH TO 'XMT'

	CHECKLIST	= SEQUENCE
SET	DOPPLER CONTROL	
	DOPPLER CONTROL	= XMT

05.2.1.004.00*

MONITOR A-V FLIGHT PARAMETER INDICATORS*

	CHECKLIST	= SEQUENCE
CHECK	ATTITUDE-BEARING INDICATORS	
	MULTIFUNCTION DISPLAY UNIT	
	DSO CLOCK	
	ATTITUDE-BEARING INDICATORS	= TBD
	AND DSO CLOCK	= TBD

05.2.1.006.00*

SET E-HOUR TIME VIA IKA*

	DSO CHECKLIST	= SEQUENCE
SET	OPTION SELECT SWITCHES	
	OPTION SELECT SWITCHES	= SET
	AND PRESENT POSITION MISSION TIME	= TBD

MISSION SEGMENT 6

OBJECTIVE: PERFORM LEVEL-OFF

6.1

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. Power level for climb - TBD
 3. Vertical velocity - TBD

CONCURRENT TASKS: 1. Maintain proper c.g

INTERACTION TASKS: 1. DSO provide heading data

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm kts)
 2. Altitude - TBD (\pm ft)
 3. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Calculate power level setting for level-off.
2. Calculate altitude lead to initiate power level change.
3. Calculate altitude lead to initiate pitch attitude change.
4. Predict necessary pitch change for level-off.
5. Coordinate control stick and throttles to achieve level-off.
6. Calculate optimum wing sweep angle for cruise.
7. Track with control stick to maintain level-off altitude.
8. Reset power level to maintain cruise airspeed.
9. Track with control stick and rudders to hold desired heading.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 6.1.1.2 6.1.1.4
 6.1.1.3 6.1.1.5

06.1.1.002.00*

ADJUST THROTTLES FOR LEVEL OFF

	AVVI-PILOT	= TBD
ADJUST	PRIMARY THROTTLE LEVERS-PI	
	AMI-PILOT	= TBD

06.1.1.003.00*

ADJUST WING SWEEP

	WING SWEEP POSITION INDICATOR	= TBD
ADJUST	PILOTS WING SWEEP HANDLE	
	WING SWEEP POSITION INDICATOR	= TBD

06.1.1.004.00*

CHECK HEADING AND ALTITUDE INDICATORS

	DSO ICS	= TRANSMITS*
CHECK	VERTICAL SITUATION DISPLAY	
	HORIZONTAL SITUATION INDICATOR	
	HEADING READOUT	
	VERTICAL SITUATION DISPLAY	= TBD
	AND HEADING READOUT	= TBD

06.1.1.005.00*

ADJUST CONTROL STICK AND RUDDERS FOR LEVELING AND CRUISE

ADJUST	PILOTS FLIGHT CONTROL STICK	
	PILOTS RUDDER PEDALS	
	AMI-PILOT	= TBD
	AND VSD-PILOT	= TBD

OBJECTIVE: CREW STATION CHECK

6.2

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP execute crew station checks concurrently.
2. Report checks complete.

PERFORMANCE LIMITS: 1. Proper sequence.
2. Station checks at 30-minute intervals and prior to crew rest during flight.

ENABLING OBJECTIVES:

1. Recall that the normal position of circuit breakers are in but due to the systems being shut down or inoperative some circuit breakers should be left out.
2. Recall that the selection of the bearing and heading sources for the BDHI is made at the front station.
3. Recall that the #1 needle is the relative bearing indicator for the TACAN. The #2 needle is either the bearing to a NAV checkpoint as selected by the ACU, or a bearing to a UHF/ADF station.
4. Recall that the precision bombing timer would be used as a backup for timed navigation and manual weapons release.
5. Recall that the CAS/TAS indicator is used to display ground speed, ballistic parameters, navigational parameters, etc. The information is supplied from whichever Air Data System has been selected at the pilot's station.

ANCILLARY OBJECTIVES:

1. Recall that the solid line on the indicator's sphere represents the real world horizon. The scale at the bottom indicates the aircraft's roll attitude in degrees.
2. Recall that the compass card in the BDHI can be driven either by the inertial platform (NAV) or by the gyro stabilization system (GSS).

OPERATOR: OSO

TASK ELEMENTS: 6.2.1.1
6.2.1.8
6.2.1.9

06.2.1.001.00*

CHECK CIRCUIT BREAKER PANELS

CHECKLIST

= START

CHECK

LEFT CIRCUIT BREAKERS
RIGHT CIRCUIT BREAKERS

FLIGHT LOG
AND RIGHT CIRCUIT BREAKERS

= RECORDED*
= IN

06.2.1.008.00*

CHECK FLIGHT PERFORMANCE INDICATORS

CHECKLIST

= SEQUENCE

CHECK

FLIGHT PERFORMANCE INDICATORS*

FLIGHT PERFORMANCE INDICATORS = LIMITS*
AND CHECKLIST = COMPLETED

06.2.1.009.00*

REPORT STATION CHECKS COMPLETE

CHECKLIST
AND IN-FLIGHT PROGRESS CHART

= COMPLETED
= RECORDED

TRANSMIT

ICS

PILOT ICS

= TRANSMITS*

OBJECTIVE: CREW STATION CHECK

6.3

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

1. OSO & DSO check circuit breaker panels.
2. OSO check flight performance indicated.
3. Report station checks complete.

PERFORMANCE LIMITS:

1. Proper sequence.
2. Enters in flight log as checks completed.
3. Station checks at 30-min. intervals and prior to crew rest during flight.

ENABLING OBJECTIVES:

1. Recall that total fuel flow to all four engines is displayed on the total fuel flow indicator in pounds per hour.
2. Recall that the vertical tape fuel indicators display gross quantities for all fuel tanks except EXT and WPN BAY.
3. Recall that the precise quantity for all tanks can be obtained with the SEL TK indicators.
4. Recall that the fuel sequence flow should occur simultaneously in two tanks for stable weight distribution.
5. Recall that fuel in fuselage tanks #2 and #3 are used early in the sequence unless supersonic flight is flown early. Then the WG position is selected to minimize "boil-off."
6. Recall that the indicators on the transfer pump geographical schematic show green when fuel is being pumped from a given tank.
7. Recall that the pointer on the ACT tape indicates the existing CG position.
8. Recall that the pointer on the TGT tape indicates the desired CG location.
9. Recall that the TGT indicator can be set by the crew or is set automatically from the control mechanization.
10. Recall that the GROSS WT digital readout displays air vehicle gross weight in hundreds of pounds.
11. Recall that the liquid oxygen indicator displays quantity in liters.

ENABLING OBJECTIVES: (Continued)

12. Interpret the VSD presentation to determine whether the display reflects the mode selected and the existing flight conditions.
13. Interpret the HSI display to determine whether the indicator represents the correct heading, course, mileage of the desired flight path.
14. Interpret the SADI presentation to determine whether the display is consistent with the VSD and the existing flight conditions.
15. Check the SAMI to insure that the indication is consistent with the AMI and the mach or airspeed being flown.
16. Check the GS/TAS indicator to determine whether the TAS or GS reading is consistent with the OSO's displays.

ANCILLARY OBJECTIVES:

1. Recall that if the pressure in any of the hydraulic systems falls below 2150 PSI, the hydraulic caution light will illuminate.
2. Recall that if the hydraulic fluid level in systems 1 and 4 falls below 6 gallons or the fluid level in the reservoirs for systems 2 and 3 falls below 11 gallons, the HYD caution light will illuminate.
3. Recall that if the HYD caution light comes on because of low system pressure, this would indicate a second pump failure or loss of fluid from that system. Each hydraulic system contains two pumps (each of which can maintain system pressure).
4. Recall that if the cabin pressure altitude indicator is below 10,000 feet, the corresponding caution light will be out.
5. Recall the EMERG GEN ON illuminates when the emergency generator is either manually or automatically energized to feed the essential bus.
6. Recall that a CSD caution light will illuminate when the respective CSD temperature exceeds a preset level.
7. Recall that if one of the CSD caution lights come on, the corresponding CSD should be decoupled.
8. Recall that the GEN caution lights will illuminate when the respective generator trips off the line. Corrective action is to cycle the generator to RESET/OFF and back to ON.
9. Recall that loss of power or valid signals to any of the engine indicators will be displayed by an OFF flag at the top of the affected tape and the absence of a tape readout.
10. Recall that individual caution lights above each FAN RPM or CORE RPM display will illuminate when fan RPM or CORE RPM, respectively, exceeds 107 percent.

ANCILLARY OBJECTIVES: (Continued)

11. Recall that individual caution lights above each ENG TEMP indicator will come on when turbine blade temperature exceeds safe limits.
12. Recall that individual OIL PRESS caution lights will illuminate above each OIL PRESS display when pressure falls below 10 PSI. The lights also respond to low oil quantity signals when the level falls below 30 percent of reservoir capacity.
13. Recall that the ENG director caution light will come on when one of the miniature caution lights mounted on the FAN RPM, ENG TEMP, CORE RPM, or OIL PRESS and OIL QTY indicators illuminate.
14. Recall that the fuel XFEED light will illuminate when the fuel pressure in the L or R system falls below a preset level.
15. Recall that the fuel CLG LOOP RTN will illuminate when individual fuel flow falls below a preset limit and FUEL CLG LOOP RTN fails to open automatically.
16. Recall that illumination of the CLG FUEL LOOP CRSVR light occurs when the pressure rise across either the LH or RH cooling fuel pump falls below a preset level.
17. Recall that the fuel low light illuminates when the fuel drops below a preset level in either main tank.
18. Recall that the FWD and AFT cg indicators represent the forward and aft cg limits, respectively, as determined from the FCGMS computer.
19. Recall the the CG LIMITS caution light will illuminate when the air vehicle CG exceeds either the forward or aft limits.
20. Recall that the LO₂ test switch will cause the indicator needle to rotate counter-clockwise to zero.
21. Recall that the OXYGEN LOW caution light will start flashing when the indicator test is performed.
22. Check the radar altimeter indication if the air vehicle is below 5,000 feet. It's value plus the terrain elevation should be consistent with the mean sea level indication displayed on the AVVI.
23. Check the AOA indicator to insure that it is consistent with the AOA error symbol shown on the VSD.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	6.2.1.2	6.2.1.6
	6.2.1.3	6.2.1.7
	6.2.1.4	6.2.1.8
	6.2.1.5	6.2.1.9

06.2.1.002.00*

CHECK HYDRAULIC INDICATORS

	CHECKLIST	= SEQUENCE
CHECK	HYDRAULIC QUANTITY INDICATORS HYDRAULIC PRESSURE INDICATORS HYDRAULIC LIGHT	
	HYDRAULIC QUANTITY INDICATORS AND HYDRAULIC LIGHT	= TBD* = OFF

06.2.1.003.00*

CHECK CABIN PRESSURE ALTITUDE INDICATOR

	CHECKLIST	= SEQUENCE
CHECK	CABIN PRESS ALT INDICATOR	
	CABIN PRESS ALT INDICATOR AND FLIGHT LOG	= LIMITS = RECORDED

06.2.1.004.00*

CHECK ELECTRICAL CONTROL PANEL

	CHECKLIST	= SEQUENCE
CHECK	ELECTRICAL CONTROL PANEL	
	ELECTRICAL CONTROL PANEL AND FLIGHT LOG	= LIMITS* = RECORDED

06.2.1.005.00*

CHECK ENGINE INSTRUMENTS

	CHECKLIST	= SEQUENCE
CHECK	ENGINE START DISPLAYS	
	ENGINE START DISPLAYS AND FLIGHT LOG	= LIMITS* = RECORDED

06.2.1.006.00*

CHECK FUEL FLOW RATES, SEQUENCING, AND CG INDICATORS

	CHECKLIST	= SEQUENCE
CHECK	FUEL MGT PANEL PERCENT MACH INDICATOR FUEL FLOW INDICATOR-1	
	FUEL FLOW INDICATOR-1 AND PERCENT MACH INDICATOR	= LIMITS* = LIMITS

06.2.1.007.00*

CHECK OXYGEN QUANTITY

CHECK

CHECKLIST

= SEQUENCE

LIQUID OXYGEN QUANTITY METER

LIQUID OXYGEN QUANTITY METER
AND FLIGHT LOG

= TBD*
= RECORDED

06.2.1.008.00*

CHECK FLIGHT PERFORMANCE INDICATORS

CHECK

CHECKLIST

= SEQUENCE

FLIGHT PERFORMANCE INDICATORS*

FLIGHT PERFORMANCE INDICATORS = LIMITS*
AND CHECKLIST = COMPLETED

06.2.1.009.00*

REPORT STATION CHECKS COMPLETE

TRANSMIT

CHECKLIST
AND IN-FLIGHT PROGRESS CHART

= COMPLETED
= RECORDED

ICS

PILOT ICS

= TRANSMITS*

OBJECTIVE: ACTIVATE FUNCTIONAL SYSTEMS

6.4

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. Climbout completed
 3. Flight instruments within specified limits

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO activates functional systems

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that by selecting INRTL on Flight Instrument Test and Modes Panel, heading information is presented to the HSI from the avionics IMU.
2. Recall function of individual AFCS modes, including incompatibilities.
3. Recall HF radio setting and tuning procedure.
4. Recall that when "1 or 2" is selected on radar altimeter channel selector, both altimeters are on with one tracking and the other blanked.

ANCILLARY OBJECTIVES:

OPERATOR: P /CP

TASK ELEMENTS: 6.3.1.1
 6.3.1.2
 6.3.1.3
 6.3.1.4
 6.3.1.5

06.3.1.001.00

SELECT INERTIAL PLATFORM*

FLIGHT PERFORMANCE INDICATORS = LIMITS
AND AIR-VEHICLE = CRUISE

SET

PLATFORM SELECT SWITCH-COP

PLATFORM SELECT SWITCH-COP = INRTL

06.3.1.002.00

SELECT AFCS MODES AS REQUIRED*

AIR-VEHICLE = CRUISE
AND PLATFORM SELECT SWITCH-COP = INRTL

SET

PILOTS AFCS MODE SELECT PANEL

PILOTS AFCS MODE SELECT PANEL = TBD

06.3.1.003.00

SET AND TUNE HF RADIO TO PRE-DESIGNATED FREQUENCY

AIR-VEHICLE = CRUISE
AND PILOTS AFCS MODE SELECT PANEL = TBD

SET

RADIO MODE SELECT SWITCH
FREQUENCY INDICATOR-SELECTOR

RADIO MODE SELECT SWITCH = TBD
AND FREQUENCY INDICATOR-SELECTOR = TBD

06.3.1.004.00

SET RADAR ALT PWR-SET-TEST KNOB TO '5000' WITH INDEXER

AIR-VEHICLE = CRUISE
AND FREQUENCY INDICATOR-SELECTOR = TBD

SET

POWER-SET-TEST CONTROL KNOB

VARIABLE ALTITUDE INDEX MARKER= 5000

06.3.1.005.00

SET RADAR ALT CHANNEL SELECTOR SWITCH TO '1 OR 2'

AIR-VEHICLE = CRUISE
AND VARIABLE ALTITUDE INDEX MARKER= 5000

SET

CHANNEL SELECTOR SWITCH

CHANNEL SELECTOR SWITCH = 1 OR 2

OBJECTIVE: ACTIVATE FUNCTIONAL SYSTEMS

6.5

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP activate functional systems.

PERFORMANCE LIMITS: 1. Proper sequence.
 2. Switches in proper positions.

ENABLING OBJECTIVES:

1. Recall that by setting the navigation mode select switch to AUTO, the ACU (avionics control unit) determines when and which mode and what calculations will be used.
2. Recall that when the DDR or the ADDR segment is lighted, the navigation mode giving an estimate of present position is doppler or air data dead reckoning, respectively.
3. Recall that ACU power must be on to complete coarse alignment and for gyro torquing INS.
4. Recall that the COARSE indicator flashes four times per second while the particular INS is in the hardware coarse alignment phase and turns steady when the coarse leveling phase is entered.

ANCILLARY OBJECTIVES:

1. Recall that all navigation updates are accepted 100 percent by the system anytime the DR mode is used for navigation.
2. Recall that with the FLR photo switch in AUTO, photographs are taken automatically once every 20 antenna frames (40 scans) and once every 2 antenna frames (four scans) when in the BOMB mode.

OPERATOR: OSO

<u>TASK ELEMENTS:</u>	6.3.1.6	6.3.1.11
	6.3.1.7	6.3.1.12
	6.3.1.8	6.3.1.13
	6.3.1.9	6.3.2.8
	6.3.1.10	

06.3.1.006.00

SET NAV MODE SELECT SWITCHLIGHT TO 'AUTO'*

AIR-VEHICLE = CRUISE
AND CHANNEL SELECTOR SWITCH = 1 OR 2

DEPRESS

AUTO-MAN MODE SELECT

AUTO-MAN MODE SELECT = 'AUTO'

06.3.1.007.00

OBSERVE THAT NAV SYSTEM IS IN 'DDR-ADDR'

AUTO-MAN MODE SELECT = 'AUTO'

CHECK

DR CALCULATION MODE SELECT*

DR CALCULATION MODE SELECT = 'DDR-ADDR'

06.3.1.008.00

OBSERVE INS #1 AND #2 IS IN WARMUP MODE

CLOCK-PILOT < 10

CHECK

NAVIGATION ANNUNCIATORS-1*
NAVIGATION ANNUNCIATORS-1

NAVIGATION ANNUNCIATORS-1 = 'WM UP CRS FINE'
AND NAVIGATION ANNUNCIATORS-1 = 'WM UP CRS FINE'

06.3.1.009.00

OBSERVE WHEN INS#1 AND #2 WARMUP PHASE IS COMPLETED

CLOCK-PILOT = E PLUS 10

CHECK

NAVIGATION ANNUNCIATORS-1
NAVIGATION ANNUNCIATORS-1

NAVIGATION ANNUNCIATORS-1 = BLANK*
AND NAVIGATION ANNUNCIATORS-1 = BLANK

06.3.1.010.00

OBSERVE INS 1 AND 2 IS IN 'COARSE' ALIGNMENT PHASE

NAVIGATION ANNUNCIATORS-2 = BLANK
AND NAVIGATION ANNUNCIATORS-2 = BLANK

CHECK

NAVIGATION ANNUNCIATORS-2
NAVIGATION ANNUNCIATORS-2

NAVIGATION ANNUNCIATORS-2 = FLASHING*
AND NAVIGATION ANNUNCIATORS-2 = FLASHING

06.3.1.011.00

OBSERVE INS 1 AND 2 COARSE ALIGNMENT PHASE IS COMPLETED

CLOCK-PILOT

= E30

CHECK

NAVIGATION ANNUNCIATORS-2
NAVIGATION ANNUNCIATORS-2

NAVIGATION ANNUNCIATORS-2
AND NAVIGATION ANNUNCIATORS-2

= 'COARSE'*
= 'COARSE'

06.3.1.012.00

OBSERVE INS 1 AND 2 IN FINE ALIGNMENT PHASE

NAVIGATION ANNUNCIATORS-INS1 = 'COARSE'
AND NAVIGATION ANNUNCIATORS-INS 2 = 'COARSE'

CHECK

NAVIGATION ANNUNCIATORS-INS1
NAVIGATION ANNUNCIATORS-INS 2

NAVIGATION ANNUNCIATORS-INS1 = 'FINE'
AND NAVIGATION ANNUNCIATORS-INS 2 = 'FINE'

06.3.1.013.00

POSITION FLR PHOTO SWITCH TO 'AUTO'

CHECKLIST

= SEQUENCE*

SET

PHOTO CONTROL

PHOTO CONTROL

= AUTO

06.3.2.008.00

OBSERVE THAT INS 1 AND INS 2 HAVE COMPLETED ALIGNMENT

CLOCK-PILOT

= E37

CHECK

NAVIGATION ANNUNCIATORS-INS1

NAVIGATION ANNUNCIATORS-INS1 = OFF
AND NAVIGATION ANNUNCIATORS-INS 2 = OFF

OBJECTIVE: APPLY POWER TO STORES

6.6

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence.
 2. Switches in proper positions.

ENABLING OBJECTIVES:

1. Recall that the SLU switches provide power commands to the ACU.

ANCILLARY OBJECTIVES:

1. Recall that SLU turn on occurs immediately following selection of the enable position.
2. Recall that the SLUs are turned off only after the weapons are safed.
3. Recall that power control from the left EMUX is provided to the FWD, AFT and LPYL SLUs and from the right EMUX to the INTMD and R PYL.

OPERATOR: OSO

TASK ELEMENTS: 6.3.2.3.0
 6.3.2.3.2
 6.3.2.3.3

06.3.2.003.00

APPLY POWER TO MISSILE AND NUCLEAR GRAVITY STORE

CHECKLIST

= SEQUENCE

06.3.2.003.02

DEPRESS 'ALL' PUSHBUTTON ON NUMERIC KEYBOARD OF SMS PANEL

FWD-USBL SLU SWITCH
AND AFT-USBL SLU SWITCH

= FWD
= AFT

DEPRESS

STATION NUMERIC KEYBOARD

STATION NUMERIC KEYBOARD

= 9 (FLASHING)

06.3.2.003.03

SET STORE POWER TOGGLE SWITCH TO 'ON'

STATION NUMERIC KEYBOARD

= (FLASHING)

SLT

STORE POWER SWITCH

STORE POWER SWITCH
AND STATION NUMERIC KEYBOARD

= ON
= (BLANK)

OBJECTIVE: LOAD EWO MISSION CASSETTE

6.7

CRITICALITY: 3 DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence.
2. Switches in proper positions.

ENABLING OBJECTIVES:

1. Recall that the integrated keyboard (IKB) is used to transfer mission data from tape cassettes into ACU memory.
2. Recall how to insert a cassette into the DEV.

ANCILLARY OBJECTIVES:

1. Recall that the GN/DSBL switch commands right EMUX turn on which powers the general Navigation ACU and the Data Entry Unit.
2. Recall that cassette loading can be verified by calling up sequence numbers on the Navigation panel and viewing the displays on the Stores Management System CRTs.
3. Recall that improper insertion of a cassette into the DEV is precluded by the physical geometry of the cassette.

OPERATOR: OSO

TASK ELEMENTS: 6.3.2.4
6.3.2.5
6.3.2.6
6.3.2.7

06.3.2.004.00

POSITION IKB SELECTOR KNOB TO 'MISN TAPE'*

	CHECKLIST	= SEQUENCE
SET	ACU DATA TRANSFER CONTROL	
	ACU DATA TRANSFER CONTROL	= MISN TAPE

06.3.2.005.00

INSERT EWD MISSION CASSETTE INTO DATA ENTRY UNIT

	ACU DATA TRANSFER CONTROL	= MISN TAPE
INSERT	EWD MISSION TAPE	
	EWD MISSION TAPE	= INSERTED*

06.3.2.006.00

DEPRESS MEMORY CONTROL 'LOAD' PUSHBUTTON ON IKB TO ENTER DAT*

	EWD MISSION TAPE	= INSERTED
DEPRESS	MEMORY CONTROL LOAD PUSHBUTTON	
	MEMORY CONTROL LOAD PUSHBUTTON= ON*	

06.3.2.007.00

VERIFY EWD MISSION CASSETTE DATA IS LOADED*

	CHECKLIST	= SEQUENCE
READ	DISPLAY TUBE SURFACE SEQUENCE NUMBER	
	DISPLAY TUBE SURFACE	= TBD
	AND SEQUENCE NUMBER	= TBD

OBJECTIVE: EXECUTE FLR UPDATE

6.8

CRITICALITY: 2 DIFFICULTY: 3

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P acknowledges FLR update communication.
2. Pilot observes AUTO PILOT steering correction on VSD.

PERFORMANCE LIMITS: 1. Proper sequence.
2. Switches in proper position.
3. Successful discrimination of CP.
4. X-hairs - \pm TBD feet.

ENABLING OBJECTIVES:

1. Recall that when the PPC is IN, the tracking handle positions the FLR cursors and the ACU will accept a FLR update.
2. Recall that in GND AUTO, the range switch selects only one of the following ranges: 2.5, 5, 10, 30, 80 or 200.
3. Discriminate the CP on the radar scope from other radar returns in vicinity.
4. ~~Recall~~ Recall that when GND VEL has been selected, the radar ground map remains stable on the display with the targets and cursors remaining at the center of the display.
5. Recall that in GND VEL, the range sweep selections are 7.5/2.5, 15/5, 30/10, 90/30, 160/80 or 200/200. The first and second numbers represent range sweep and display scale (diameter) in miles, respectively.
6. Recall that the UPDT QUAL of a selected point can be either 1, 2 or 3 where a high position accuracy is represented by number 1. A low quantity or relatively poor position accuracy is indicated by 3. With each switch depression the numbers sequence as follows: 1, 2, 3, 1, etc.
7. Recall that operating the sector toggle switch on the tracking handle causes the FLR antenna sector width to be reduced to $\pm 10^\circ$ about the azimuth cursor. The forward position of the switch selects narrow scan.
8. Recall that squeezing the enable switch on the tracking handle allows the X-hair cursors to be repositioned.
9. Recall that by depressing ENTER on the NAV CORR panel, when neither OVERFLY or EVS have been selected, initiates a position update based upon FLRX-hair position if PPC is in.

ANCILLIARY OBJECTIVES:

1. Recall that when the FLR mode switch is in GND AUTO, the range and azimuth cursors are controlled by the ACU.
2. Recall that the displayed Seq. No. has been entered into the ACU either via the mission tape or through the IKB.
3. Recall that the Seq. No. is controlled by both the Forward/Reverse switch and the right Cross Hair Control switches and activation of any one switch overrides any previous activation.
4. Recall that if the Kalman does not accept the update, the IN UPDT annunciator light goes off and UPDT REJ light comes on.
5. Recall that the UPDT REJ light flashes for 17 seconds at the rate of 4 flashes per second and then deactivates.
6. Recall that operating the sector toggle switch on the tracking handle to the off position selects the wide scan on the FLK antenna sector width.

OPERATOR: OSO

TASK ELEMENTS:

9.2.1.1	9.2.1.7	9.2.1.13
9.2.1.2	9.2.1.8	6.3.2.9
9.2.1.3	9.2.1.9	
9.2.1.4	9.2.1.10	
9.2.1.5	9.2.1.11	
9.2.1.6	9.2.1.12	
11.5.2.1	11.5.2.5	11.5.2.9
11.5.2.2	11.5.2.6	11.5.2.10
11.5.2.3	11.5.2.7	11.5.2.11
11.5.2.4	11.5.2.8	11.5.2.12
		11.5.2.13

09.2.1.001.00*

SET FLR SELECT ROTARY SWITCH TO 'GND AUTO'*

	CRT DISPLAY SURFACE	= TBD
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND AUTO

09.2.1.002.00*

SET PPC SWITCH ON RADAR SET CONTROL TO 'IN'

	CRT DISPLAY SURFACE	= TBD
SET	PRESENT POSITION CORRECTION SW	
	PRESENT POSITION CORRECTION SW= IN	

09.2.1.003.00*

OBSERVE NEXT SEQ NO IS A CP ON SEQ NO DIGITAL READOUT

	SEQUENCE NUMBER	= TBD
OBSERVE	SEQUENCE NUMBER	
	SEQUENCE NUMBER	= TBD
	AND PRE-PLANNED DATA SHEET	= TBD

09.2.1.004.00*

SET FLR RANGE SELECT ROTARY SWITCH TO DESIRED RANGE

	CRT DISPLAY SURFACE	= TBD*
SET	RANGE SWITCH-FLR	
	RANGE SWITCH-FLR	= TBD*

09.2.1.005.00*

IDENTIFY CP OF INTEREST ON FLR CRT SCOPE

	CRT DISPLAY SURFACE	= TED*
IDENTIFY	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*

09.2.1.006.00*

OBSERVE X-HAIR CURSORS POSITION RELATIVE TO CP

	RADAR CURSORS	= TBD*
OBSERVE	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= OBSERVED*

09.2.1.007.00*

SET FLR SELECT ROTARY SWITCH TO 'GND VEL'

	CRT DISPLAY SURFACE	= EXPANDED
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL*
	AND CRT DISPLAY SURFACE	= EXPANDED

09.2.1.008.00*

DEPRESS UPDT QUAL PUSHBUTTON SWITCH ON NAV CORR PANEL

	UPDATE QUALITY SELECTOR	= TBD*
DEPRESS	UPDATE QUALITY SELECTOR	
	UPDATE QUALITY SELECTOR	= TBD*

09.2.1.009.00*

SET NARROW SECTOR SCAN ON FLR WITH TRACKING HOLE PUSHBUTTON

	CRT DISPLAY SURFACE	= NARROW SECT SCAN*
DEPRESS	SECTOR SWITCH	
	CRT DISPLAY SURFACE	= NARROW SECT SCAN

09.2.1.010.00*

POSITION X-HAIR CURSORS TO COINCIDE WITH CHECKPOINT

	CRT DISPLAY SURFACE	= TBD*
POSITION	ENABLE SWITCH	
	X-HAIR CURSORS	= POSITIONED
	AND CRT DISPLAY SURFACE	= TBD

09.2.1.011.00*

DEPRESS 'ENTER' ON NAV CORR PANEL TO INTEGRATE CP UPDATE

X-HAIR CURSORS = POSITIONED
AND CRT DISPLAY SURFACE = TSD

DEPRESS

ENTER CONTROL

IN UPDT INDICATOR = 'IN UPDT'*

09.2.1.012.00*

ADVISE PILOT FLR UPDATE HAS BEEN ACCEPTED AND IS COMPLETE

IN UPDT INDICATOR = OFF*

COMMUNICATE

OSO INTERPHONE SWITCH

PILOT ICS = ACKNOWLEDGED

09.2.1.013.00*

OBSERVE AUTOPILOT STEERING CORRECTION ON VSD

OSO ICS = UPDATE COMPLETED

OBSERVE

VERTICAL SITUATION DISPLAY

VERTICAL SITUATION DISPLAY = OBSERVED*

06.3.2.009.00*

EXECUTE PRESENT POSITION UPDATE - AS REQUIRED*

COMBAT MISSION FOLDER = CHECKED
AND PRESENT POSITION LONGITUDE = ERROR

*SAME AS 9.2.1.1 - 9.2.1.13
AND*

11.5.2.1 - 11.5.2.13

11.5.2.001.00*

SET FLR SELECT ROTARY SWITCH TO 'GND AUTO'*

SET

CRT DISPLAY SURFACE

= TBD*

MODE SWITCH-RADAR SET

MODE SWITCH-RADAR SET

= GND AUTO

11.5.2.002.00*

SET PPC SWITCH ON RADAR SET CONTROL TO 'IN'

SET

CRT DISPLAY SURFACE

= TBD*

PRESENT POSITION CORRECTION SW

PRESENT POSITION CORRECTION SW= IN

11.5.2.003.00*

OBSERVE NEXT SEQ NO IS A CP ON SEQ NO DIGITAL READOUT

CHECK

SEQUENCE NUMBER

= TBD*

SEQUENCE NUMBER

SEQUENCE NUMBER

= TBD

AND PRE-PLANNED DATA SHEET

= TBD

11.5.2.004.00*

SET FLR RANGE SELECT ROTARY SWITCH TO DESIRED RANGE

SET

CRT DISPLAY SURFACE

= TBD*

RANGE SWITCH-FLR

RANGE SWITCH-FLR

= TBD*

11.5.2.005.00*

IDENTIFY CP OF INTEREST ON FLR CRT SCOPE

IDENTIFY

CRT DISPLAY SURFACE

= TBD*

CHECK POINT

CRT DISPLAY SURFACE

= TBD*

11.5.2.006.00*

OBSERVE X-HAIR CURSOR POSITION RELATIVE TO CP

CHECK

RADAR CURSORS

= TBD*

CRT DISPLAY SURFACE

CRT DISPLAY SURFACE

= OBSERVED*

11.5.2.007.00*

SET FLR SELECT ROTARY SWITCH TO 'GND VEL'

	CRT DISPLAY SURFACE	= EXPANDED
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL*
	AND CRT DISPLAY SURFACE	= EXPANDED

11.5.2.008.00*

DEPRESS UPDT QUAL PUSHBUTTON SWITCH ON NAV CORR PANEL

	UPDATE QUALITY SELECTOR	= '1'
	OR UPDATE QUALITY SELECTOR	= '3'
DEPRESS	UPDATE QUALITY SELECTOR	
	UPDATE QUALITY SELECTOR	= '1'
	OR UPDATE QUALITY SELECTOR	= '3'

11.5.2.009.00*

SET NARROW SECTOR SCAN ON FLR WITH TRACKING WHEEL PUSHBUTTON

	CRT DISPLAY SURFACE	= NARROW SECT SCAN*
DEPRESS	SECTOR SWITCH	
	CRT DISPLAY SURFACE	= NARROW SECT SCAN

11.5.2.010.00*

POSITION X-HAIR CURSORS TO COINCIDE WITH CHECK POINT

	CRT DISPLAY SURFACE	= TBD*
DEPRESS	ENABLE SWITCH	
	X-HAIR CURSORS	= POSITIONED
	AND CRT DISPLAY SURFACE	= TBD

11.5.2.011.00*

DEPRESS 'ENTER' ON NAV CORR PANEL TO INTEGRATE CP UPDATE

	X-HAIR CURSORS	= POSITIONED
	AND CRT DISPLAY SURFACE	= TBD
DEPRESS	ENTER CONTROL	
	IN UPDT INDICATOR	= 'IN UPDT'*

11.5.2.012.00*

ADVISE PILOT FLB UPDATE HAS BEEN ACCEPTED AND IS COMPLETE

COMMUNICATE

IN UPDT INDICATOR

= OFF*

OSO ICS

PILOT ICS

= ACKNOWLEDGED

11.5.2.013.00*

OBSERVE AUTOPILOT STEERING CORRECTION ON VSD

MONITOR-VISUAL

OSO ICS

= UPDATE COMPLETED

STEERING COMMAND SYMBOL-PIL
STEERING COMMAND SYMBOL-COP

STEERING COMMAND SYMBOL-PIL = TBD*
AND STEERING COMMAND SYMBOL-COP = TBD

MISSION SEGMENT 7

OBJECTIVE: PRE-RENDEZVOUS (PROCEDURES)

7.1

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. Radio communication with Tanker acknowledged by Tanker CP.
2. OSO accomplishes pre-rendezvous procedures.

PERFORMANCE LIMITS: 1. Proper sequence.
2. Switches in proper position.

ENABLING OBJECTIVES:

1. Recall UHF operation procedures.
2. Recall operation of Intercom panel.
3. Recall function of TACAN mode selector and TACAN frequency selecting procedures.
4. Interpret TACAN lock-on indications on HSI.

ANCILLARY OBJECTIVES:

1. Recall encode and decode features of X-BAND XPNDR.
2. Recall different display symbology for various USD modes.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	7.1.1.1	7.1.1.8
	7.1.1.3	7.1.1.10
	7.1.1.3.1	7.1.1.12
	7.1.1.3.2	7.1.1.13
	7.1.1.5	7.1.1.14

07.1.1.001.00*

SET RADAR 'X-BAND XPDR' POWER SELECT SWITCHES TO 'OPR'

	CHECKLIST	= SEQUENCE
SET	POWER SELECT SWITCH	
	POWER SELECT SWITCH	= OPR

07.1.1.003.00*

SET UHF RADIOS FOR AB FREQUENCY (UHF 1 AND UHF 2)

	MANUAL CHANNEL READOUT	=TBD
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07.1.1.003.01*

SET UHF 1 RADIO FOR AB FREQUENCY*

	FUNCTION SELECT SW-PILOT	=ADF
	AND MANUAL CHANNEL READOUT-PIL	=TBD
SET	FUNCTION SELECT SW-PILOT	
	MANUAL-FREQUENCY SELECTOR-PIL	
	MANUAL CHANNEL READOUT-PIL	
	FUNCTION SELECT SW-PILOT	= ADF
	AND MANUAL CHANNEL READOUT-PIL	= TBD

07.1.1.003.02*

SET UHF 2 RADIO FOR AB FREQUENCY*

	FUNCTION SELECT SW-COPILOT	=MAIN
	AND MANUAL CHANNEL READOUT-COP	=TBD
SET	FUNCTION SELECT SW-COPILOT	
	MANUAL-FREQUENCY SELECTOR-COP	
	MANUAL CHANNEL READOUT-COP	
	FUNCTION SELECT SW-COPILOT	= MAIN
	AND MANUAL CHANNEL READOUT-COP	= TBD

07.1.1.005.00*

ESTABLISH INITIAL RADIO COMMUNICATION WITH TANKER

	MANUAL CHANNEL READOUT-COP	= TBD
ESTABLISH	PUSH-TO-TALK SWITCH-COPILOT	
	TANKER COPILOT UHF	= ACKNOWLEDGED

07.1.1.008.00*

SET TACAN A/R CHANNEL

SET

CHANNEL SELECTOR-TACAN = TSD
CHANNEL SELECTOR-TACAN
CHANNEL SELECTOR-TACAN = TSD

07.1.1.010.00*

SET TACAN MODE SELECTOR SWITCH TO 'AIR-AIR' MODE

SET

MODE SELECTOR SWITCH-TACAN = A-A
MODE SELECTOR SWITCH-TACAN
MODE SELECTOR SWITCH-TACAN = A-A

07.1.1.012.00*

MONITOR HSI FOR TACAN LOCK-ON

MONITOR-VISUAL

DIGITAL DISTANCE READOUT-COP = LOCKED-ON
AND NAV BEARING POINTER-COPILOT = LOCKED-ON
DIGITAL DISTANCE READOUT-COP
NAV BEARING POINTER-COPILOT
DIGITAL DISTANCE READOUT-COP = LOCKED-ON
AND NAV BEARING POINTER-COPILOT = LOCKED-ON

07.1.1.013.00*

INFORM CREW OF TACAN LOCK-ON

INFORM

DIGITAL DISTANCE READOUT-COP = LOCKED-ON
AND NAV BEARING POINTER-COPILOT = LOCKED-ON
PUSH-TO-TALK SWITCH-COPILOT
DIGITAL DISTANCE READOUT-COP
NAV BEARING POINTER-COPILOT
PILOT ICS = ACKNOWLEDGED
AND DSD ICS = ACKNOWLEDGED

07.1.1.014.00*

SET FLIR MODE ON VSD

SET

MODE SELECT SWITCH-PILOT = IR
MODE SELECT SWITCH-COPILOT
MODE SELECT SWITCH-COPILOT = IR

OBJECTIVE: PRE-RENDEZVOUS PROCEDURES

7.2

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. Crew acknowledges tanker beacon signature reception.

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper position

ENABLING OBJECTIVES:

1. Interpret Tanker rendezvous seq. no. on NAV panel.
2. Recall that when the AIR mode is selected on the FLR set control, all angle tracking of air targets or beacon replies is possible.
3. Recall that with the range mark control, slant range mark brightness can be adjusted from zero to full.
4. Recall that the 2.5, 5, 10, 30, 80, 200 range set can be selected when the radar mode switch is in AIR.
5. Recall that the range intensity control varies range cursor brightness from zero to full brightness.
6. Recall that the slope control is used to change the effective range of AMPL/OFF control. The control is inoperative in the AIR and BEACON modes.
7. Recall that the azimuth intensity control varies azimuth cursor brightness from zero to full brightness.
8. Recall that the antenna tilt meter indicates antenna tilt position from +30° to -30°.
9. Recall that the video control varies the amplitude of the video signal.
10. Recall that the IF GAIN control permits adjustment of receiver gain in the ground and beacon modes only.
11. Discriminate among various tanker beacons on the FLR CRT and recognize code of the assigned tanker.

ANCILLARY OBJECTIVES:

1. Recall that when the AIR mode on the FLR set control is selected, the tracking handle controls antenna elevation and the range and azimuth cursors.
2. Recall that when the NORTH-NORM switch is in NORTH, the display is oriented with north and when in NORM it is oriented with the top of the CRT coincident with air vehicle ground track.

OPERATOR: OSO

TASK ELEMENTS:

- 7.1.1.4
- 7.1.1.6
- 7.1.1.7
- 7.1.1.9
- 7.1.1.11

07.1.1.004.00*

SET BCN (BEACON) ON FLR SET CONTROL

	FTC-BCN SWITCH	= BCN*
SET	FTC-BCN SWITCH CRT DISPLAY SURFACE	
	FTC-BCN SWITCH AND CRT DISPLAY SURFACE	= BCN = TBD

07.1.1.006.00*

SET FLR ROTARY MODE SWITCH TO 'AIR' MODE

	NUMBER IDENTIFIER-STEERING AND STEERING SEQUENCE NUMBER	= TBD* = TBD
SET	NUMBER IDENTIFIER-STEERING MODE SWITCH-RADAR SET CRT DISPLAY SURFACE	
	MODE SWITCH-RADAR SET AND CRT DISPLAY SURFACE	= AIR = DISPLAYED

07.1.1.007.00*

ADJUST FLR VIDEO DISPLAY AS REQUIRED*

	CRT DISPLAY SURFACE	= TBD
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07.1.1.009.00*

MONITOR FLR CRT FOR TANKER BEACON SIGNATURE

	CRT DISPLAY SURFACE	= TBD
MONITOR-VISUAL	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD

07.1.1.011.00*

INFORM CREW OF TANKER BEACON RECEPTION

	CRT DISPLAY SURFACE	= TBD
INFORM	CRT DISPLAY SURFACE DSO INTERPHONE SWITCH	
	PILOT ICS AND DSO ICS	= ACKNOWLEDGED = ACKNOWLEDGED

OBJECTIVE: TANKER IDENTIFICATION PROCEDURE

7.3

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS:

1. Cruise configuration
2. Beacon signature displayed, TACAN lock on to tanker.
3. A-V greater than 80 NM from ARCP.

CONCURRENT TASKS:

INTERACTION TASKS:

1. Tanker (CP) acknowledges request by OSO for beacon OPR.

PERFORMANCE LIMITS:

1. Proper sequence.
2. Switches in proper positions.

ENABLING OBJECTIVES:

1. Recall specification which determines initiation point for positive identification of tanker (should be well before 80 NM of ARCP before descent to refueling altitude).
2. Interpret various tanker codes as displayed on FLR CRT.
3. Recall UHF operation procedures.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS:

- 7.1.2.1
- 7.1.2.2
- 7.1.2.3
- 7.1.2.4
- 7.1.2.5

07.1.2.001.00*

REQUEST VIA UHF RADIO TANKER TO SET BEACON TO 'STBY'*

	CRT DISPLAY SURFACE	= TBD
REQUEST	OSO MICROPHONE SWITCH	
	TANKER COPILOT UHF	= ACKNOWLEDGED

07.1.2.002.00*

MONITOR FLR FOR LOSS OF TANKER BEACON SIGNATURE

	TANKER COPILOT UHF	= ACKNOWLEDGED
MONITOR-VISUAL	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*

07.1.2.003.00*

REQUEST VIA UHF RADIO TANKER RETURN BEACON TO 'OPR'*

	CRT DISPLAY SURFACE	= TBD*
REQUEST	OSO MICROPHONE SWITCH	
	TANKER COPILOT UHF	= ACKNOWLEDGED

07.1.2.004.00*

MONITOR FLR FOR RETURN OF DESIGNATED TANKER BCN SIGNATURE

	TANKER COPILOT UHF	= ACKNOWLEDGED
MONITOR-VISUAL	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*

07.1.2.005.00*

INFORM TANKER VIA UHF RADIO OF POSITIVE CONTACT

	CRT DISPLAY SURFACE	= TBD
INFORM	OSO MICROPHONE SWITCH	
	CRT DISPLAY SURFACE	
	TANKER COPILOT UHF	= ACKNOWLEDGED

OBJECTIVE:

ARIP DESCENT PROCEDURES

7.4

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. Advise crew and tanker at ARIP
2. P/CP monitor altitude/heading

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that the present position altitude readout on the navigation panel displays system barometric altitude or absolute altitude depending on the position of the H_{SL}/H_R switch.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 7.1.3.1
7.1.3.10

07.1.3.001.00*

ADVISE (UHF RADIO) BOMBER CREW AND TANKER 'AT ABIP'

COMMUNICATE

CRT DISPLAY SURFACE

= TRD*

OSO MICROPHONE SWITCH

PILOT ICS

= ACKNOWLEDGED

07.1.3.010.00*

MONITOR ALTITUDE/HEADING, AS REQUIRED

MONITOR-VISUAL

CRT TUBE DISPLAY-COPILOT
AND AVVI-COPILOT

= TRD*

= TKR ALT - 1000

CRT TUBE DISPLAY-COPILOT
HSI-COPILOT
AVVI-COPILOT

CRT TUBE DISPLAY-COPILOT
AND AVVI-COPILOT

= TRD*

= TKR ALT - 1000

OBJECTIVE: EXECUTE ARIP DESCENT

7.5

CRITICALITY: 3 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Power level for cruise - TBD

CONCURRENT TASKS: 1. Track with control stick and rudders to hold
desired heading.

INTERACTION TASKS: 1. OSO monitors altitude/heading as required.

PERFORMANCE LIMITS: 1. Vertical velocity - TBD (\pm ft/min)
2. Airspeed - TBD (\pm kts)
3. Heading - TBD (\pm degs)

ENABLING OBJECTIVES:

1. Calculate power level setting for descent.
2. Predict necessary pitch change for descent.
3. Coordinate control stick and throttles for smooth transition from
level flight to proper descent attitude.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	7.1.3.2	7.1.3.6
	7.1.3.3	7.1.3.7
	7.1.3.4	7.1.3.8
	7.1.3.5	7.1.3.9
		7.1.3.10

07.1.3.002.00*

TRACK DESIRED PITCH/ROLL ATTITUDE WITH CONTROL STICK

	CRT TUBE DISPLAY-PILOT	= TBD
TRACK	PILOTS FLIGHT CONTROL STICK	
	CRT TUBE DISPLAY-PILOT	
	CRT TUBE DISPLAY-PILOT	= TBD

07.1.3.003.00*

READ VERTICAL SPEED FROM AVVI (ALTITUDE/VERTICAL VEL INDIC)

	CRT TUBE DISPLAY-PILOT	= TBD*
READ	ALTITUDE RATE MOV SCALE-PILOT	
	ALTITUDE RATE MOV SCALE-PILOT	= TBD

07.1.3.004.00*

CHECK HORIZONTAL SITUATION (HSI) FOR CORRECT HEADING

	COMPASS CARD SCALE-PILOT	= TBD*
CHECK	COMPASS CARD SCALE-PILOT	
	COMPASS CARD SCALE-PILOT	= TBD

07.1.3.005.00*

CHECK AVVI TO ACQUIRE REQUIRED ALTITUDE SEPARATION

	AVVI-PILOT	> TKR ALT-1000*
CHECK	SENSITIVE ALT SCALE-PILOT	
	AVVI-PILOT	= TKR ALT-1000*

07.1.3.006.00*

ADJUST THROTTLES AS REQUIRED

	AIR-VEHICLE	< 80*
ADJUST	#3 THROTTLE LEVER*	
	AIRSPEED MOVING SCALE-PILOT	
	AIRSPEED MOVING SCALE-PILOT	= TBD*

07.1.3.007.00*

TRACK DESIRED RATE OF DESCENT AND TURN WITH CONTROL STICK

	#3 THROTTLE LEVER	= TBD*
	AND AIRSPEED MOVING SCALE-PILOT	= TBD
TRACK	PILOTS FLIGHT CONTROL STICK	
	CRT TUBE DISPLAY-PILOT	
	CRT TUBE DISPLAY-PILOT	= TBD*

07.1.3.008.00*

CHECK VERTICAL SPEED FROM AVVI

CHECK

CRT TUBE DISPLAY-PILOT = TBD

ALTITUDE RATE MOV SCALE-PIL

ALTITUDE RATE MOV SCALE-PIL = TBD*

07.1.3.009.00*

ACTIVATE PITCH TRIM BUTTON

ACTIVATE

PROPRIOCEPTION = ABOVE NORMAL*

PLT TRIM SW (ON CONTR STICK)

PROPRIOCEPTION = REDUCED

07.1.3.010.00*

MONITOR ALTITUDE/HEADING, AS REQUIRED

MONITOR-VISUAL

CRT TUBE DISPLAY-COPILOT
AND AVVI-COPILOT

=TBD*

=TKR ALT - 1000

CRT TUBE DISPLAY-COPILOT
HSI-COPILOT
AVVI-COPILOT

CRT TUBE DISPLAY-COPILOT
AND AVVI-COPILOT

= TBD*

= TKR ALT - 1000

OBJECTIVE: EXECUTE PRE-ARCP LEVEL-OFF

7.6

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. 1,000 ft separation between A-V and tanker
2. Descent configuration

CONCURRENT TASKS: 1. Track with control stick to maintain level-off alt.
2. Track with control stick and rudders to hold desired heading
3. Reset power level to maintain Pre-ARCP airspeed or mach no.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm kts)
2. Altitude - TBD (\pm ft)
3. Vertical velocity - 0
4. Heading - TBD (\pm deg)

ENABLING OBJECTIVES:

1. Calculate power level setting for level-off.
2. Calculate altitude lead to initiate power level change.
3. Calculate altitude lead to initiate pitch attitude change.
4. Predict necessary pitch change for level-off.
5. Coordinate control stick and throttles to achieve level-off.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	7.1.4.1	7.1.4.4
	7.1.4.2	7.1.4.5
	7.1.4.3	7.1.4.6

07.1.4.001.00*

PULL BACK ON CONTROL STICK TO INITIATE LEVEL-OFF

PULL

AVVI-PILOT

= TKR ALT - 1000

PILOTS FLIGHT CONTROL STICK

AVVI-PILOT

CRT TUBE DISPLAY-PILOT

CRT TUBE DISPLAY-PILOT

= TBD*

07.1.4.002.00*

CHECK PITCH ATTITUDE ON VSD

CHECK

CRT TUBE DISPLAY-PILOT

= TBD*

CRT TUBE DISPLAY-PILOT

CRT TUBE DISPLAY-PILOT

= TBD*

07.1.4.003.00*

ADJUST THROTTLES TO MAINTAIN CONSTANT AIRSPEED

ADJUST

CRT TUBE DISPLAY-PILOT

= TBD*

#3 THROTTLE LEVER

POWER LEVEL INDICATOR-ENG #1

CRT TUBE DISPLAY-PILOT

CRT TUBE DISPLAY-PILOT

= TBD*

07.1.4.004.00*

ADJUST CONTROL STICK TO STABILIZE AZS. ATTITUDE. ALTITUDE

ADJUST

AMI-PILOT
AND AVVI-PILOT

= TBD

= TBD

PILOTS FLIGHT CONTROL STICK

AMI-PILOT
AND AVVI-PILOT

= TBD

= TBD

07.1.4.005.00*

CHECK VERTICAL SPEED ON AVVI TO MAINTAIN LEVEL-OFF

CHECK

ALT RATE MOV INDEX-PILOT

= 0

ALT RATE FIXED SCALE-PIL

ALT RATE MOV INDEX-PILOT

ALT RATE MOV INDEX-PILOT

= 0

0.7.1.4.006.00*

CHECK AMI TO HOLD AT TBD KIAS*

CHECK

ALT RATE MOV INDEX-PILOT = 0

AMI-PILOT

AMI-PILOT = TBD

OBJECTIVE: PRE ARCP LEVEL OFF COMMUNICATION AND TANKER TURN INITIATION

7.7

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Level off completed

CONCURRENT TASKS: 1. OSO monitors range between tanker and AV and counts down to 70 NM to prepare tanker for turn to recip refuel track.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Distance TBD ⁺ (miles)

ENABLING OBJECTIVES:

1. Interpret distance from tanker's transponder as displayed on the FLR CRT.
2. Recall that tanker will make a turn to the reciprocal refueling track at 70 NM. Countdown should be initiated at 100 NM with radio calls every 10 NM.
3. Recall UHF operation procedures.

ANCILLARY OBJECTIVES:

1. Recall that A/V heading should correspond with assigned aerial refueling track.

OPERATOR: OSO

TASK ELEMENTS: 7.1.4.7
7.1.5.1.1

07.1.4.007.00*

INFORM TANKER OF LEVEL-OFF ALTITUDE VIA UHF RADIO

SENSITIVE ALT SCALE-PILOT = TBD
AND ALT RATE MOV INDEX-PILOT = 0

INFORM

OSD MICROPHONE SWITCH

TANKER COPILOT UHF = ACKNOWLEDGED

07.1.5.001.01*

AT 70NM INFORM TANKER TO START TURN TO RECIP OF REFUEL HEADQ*

CRT DISPLAY SURFACE = 70

INFORM

OSD MICROPHONE SWITCH

TANKER COPILOT UHF = ACKNOWLEDGED

OBJECTIVE: ESTABLISH AR FORMATION

7.8

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Deviation from desired position with tanker

CONCURRENT TASKS: 1. Track with control stick and rudders to hold desired heading.

INTERACTION TASKS: 1. OSO intercom communication advise pilot to adjust heading and airspeed as required.

PERFORMANCE LIMITS: 1. Airspeed - TBD (+/- Kts)
2. Altitude - TBD (+/- ft)
3. Heading - TBD (+/- degs)

ENABLING OBJECTIVES:

1. Calculate intercept angle from TACAN, VSD, HSI.

ANCILLARY TASKS:

OPERATOR: P/CP

TASK ELEMENTS: 7.1.5.1
7.1.5.2
7.1.5.13

07.1.5.001.00*

OBSERVE BEARING/DISTANCE TO TANKER VIA TACAN

HORIZONTAL SITUATION INDICATOR- =TBD
AND CRT DISPLAY SURFACE - =TBD

OBSERVE

HORIZONTAL SITUATION INDICATOR
CRT TUBE DISPLAY-PILOT
CRT DISPLAY SURFACE

HORIZONTAL SITUATION INDICATOR= TBD
AND CRT DISPLAY SURFACE = TBD

07.1.5.002.00*

STEER TO DESIRED COURSE MAINTAINING ALTITUDE AND AIRSPEED

HSI-PILOT - =TBD

STEER

PILOTS FLIGHT CONTROL STICK
HSI-PILOT
AMI-PILOT

HSI-PILOT = TBD*
AND AVVI-PILOT = TBD

07.1.5.013.00*

ADJUST HEADING AND AIRSPEED AS REQUIRED

OSO ICS = ADJ HDG AND A-S

ADJUST

PRIMARY THROTTLE LEVERS-PI
PILOTS AFCS MODE SELECT PANEL

CRT TUBE DISPLAY-PILOT = TBD

OBJECTIVE: POST-ARCP PROCEDURES

7.9

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Tanker within 30 NM range

CONCURRENT TASKS:

INTERACTION TASKS: 1. Pilot adjusts airspeed and heading to keep from
overrunning tanker or falling too far in back
after tanker has completed turn.

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Determine point at which 30 NM range should be selected.
2. Recall that when the AIR mode is selected on the FLR set control, all-angle tracking of air targets or beacon replies is possible.
3. Recall that with the range mark control, slant range mark brightness can be adjusted from zero to full.
4. Recall that the 2.5, 5, 10, 30, 80, 200 range set can be selected when the radar mode switch is in AIR.
5. Recall that the range intensity control varies range cursor brightness from zero to full brightness.
6. Recall that the slope control is used to change the effective range of AMPL/OFF control. The control is inoperative in the AIR and BEACON modes.
7. Recall that the azimuth intensity control varies azimuth cursor brightness from zero to full brightness.
8. Recall that the antenna tilt meter indicates antenna tilt position from +30° to -30°.
9. Recall that the video control varies the amplitude of the video signal.
11. Recall that the IF GAIN control permits adjustment of receiver gain in the ground and beacon modes only.

ENABLING OBJECTIVES: (continued)

2.

12. Recall that more precise range information can be obtained with the beacon off and the FLR skin-painting the tanker.
13. Recall that by depressing the range search switch on the tracking handle breaks radar range lock and overrides the automatic range tracking.
14. Recall that by squeezing the enable switch, the range and azimuth cursors can be positioned over the tanker radar return.
15. Recall that the sector toggle switch on the tracking handle causes the sector width to be reduced to $\pm 10^\circ$ about the azimuth cursor. In the air mode, it changes tracking handle fore/aft motion from control of antenna tilt to control of the range gate. Also, it initiates lock on and automatic range track. After lock on, the tracking handle is inoperative unless the range control switch is depressed.
16. Calculate range at which tanker should initiate turn to the refueling track.
17. Recall that tanker will make a standard rate turn at constant airspeed.

ANCILLARY OBJECTIVES:

1. Recall that with the FLR in wide scan depressing the range search switch on the tracking handle permits range strobe slewing.

OPERATOR: OSO

<u>TASK ELEMENTS:</u>	7.1.5.3	7.1.5.9
	7.1.5.4	7.1.5.1.1
	7.1.5.5	7.1.5.2.1
	7.1.5.6	7.1.5.12
	7.1.5.7	
	7.1.5.8	

07.1.5.003.00*

SET RANGE ROTARY SWITCH TO DECREASE FLR RANGE TO 30NM

SET

CRT DISPLAY SURFACE

= TFD

RANGE SWITCH-FLR

RANGE SWITCH-FLR

= 30-10

07.1.5.004.00*

ADJUST FLR VIDEO DISPLAY AS REQUIRED*

CRT DISPLAY SURFACE

= TFD

07.1.5.005.00*

SET BEACON MODE TOGGLE SWITCH ON FLR CONTROL PANEL TO 'OFF'

SET

CRT DISPLAY SURFACE

= TFD

FTC-BLN SWITCH

FTC-BLN SWITCH

= OFF*

07.1.5.006.00*

DEPRESS ENABLE AND 'RS AIR' SWITCHES ON TRACKING HANDLE

DEPRESS

RANGE CURSORS

= TKR VIDEO RETURN*

RANGE CONTROL
ENABLE SWITCH

RANGE CONTROL
AND ENABLE SWITCH

= DEPRESSED
= DEPRESSED

07.1.5.007.00*

POSITION AZIMUTH CURSOR OVER TANKER RADAR RETURN ON FLR

POSITION

RANGE CONTROL
AND ENABLE SWITCH

= DEPRESSED
= DEPRESSED

ANTENNA INDICATOR CONTROL

AZIMUTH INT CONTROL

= TKR VIDEO RETURN

07.1.5.008.00*

DEPRESS NARROW SECTOR SCAN, ADJUST AZ CUR, RELEASE TRCK HANDLE*

DEPRESS

CRT DISPLAY SURFACE

= WIDE SECTOR SCAN

SECTOR SWITCH
CRT DISPLAY SURFACE
ANTENNA INDICATOR CONTROL

SECTOR SWITCH

= DEPRESSED

07.1.5.009.00*

OBSERVE AUTOMATIC LOCK-ON TO TANKER RETURN

	CRT DISPLAY SURFACE	= NAR SECTOR SCAN
OBSERVE	LOCK INDICATOR	
	CRT DISPLAY SURFACE	
	LOCK INDICATOR	= ON*

07.1.5.001.01*

AT 70NM INFORM TANKER TO START TURN TO RECIP OF REEVE HEADG*

	CRT DISPLAY SURFACE	= 70
INFORM	OSD MICROPHONE SWITCH	
	TANKER COPILOT UHF	= ACKNOWLEDGED

07.1.5.002.01*

AT 25NM INFORM TANKER OF TURN RANGE*

	CRT DISPLAY SURFACE	= 25
INFORM	OSD MICROPHONE SWITCH	
	TANKER COPILOT UHF	= ACKNOWLEDGED

07.1.5.012.00*

MONITOR TANKER RETURN THROUGH TURN AND ADVISE PILOT*

	CRT DISPLAY SURFACE	= TKR IN TURN
MONITOR-VISUAL	CRT DISPLAY SURFACE	
	OSD INTERPHONE SWITCH	
	PILOT ICS	= ACKNOWLEDGED

OBJECTIVE: CLOSURE ON TANKER PROCEDURES

7.10

CRITICALITY: 3 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Navigation information received from OSO

CONCURRENT TASKS:

INTERACTION TASKS: 1. Range calls from OSO

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that by selecting TKR RNDVS on the flt director panel, steering commands will direct the air vehicle to the tanker.
2. Recall that heading commands on the VSD are from the air vehicle to tanker.
3. Recall that the tanker should be approximately 2 to 4 miles ahead after its turn to the refueling track has been completed.
4. Recall that the AFCS can be disengaged by depressing the engage push-button on the AFCS or the disengage switch on the control stick to the second detent.
5. Recall that with the FDC mode switch in NAV, steering commands are referenced to the heading and course selected by the OSO.

ANCILLARY OBJECTIVES:

1. Recall that directional information can be obtained from the HSI by adjusting the course and heading set knobs.

OPERATOR: P/CP

TASK ELEMENTS: 7.2.1.1
7.2.1.2

7.2.1.7
7.2.1.8

7.2.1.10
7.2.1.12

07.2.1.001.00*

SET 'TKR RNDVS' FLT DIR MODE SWITCH

SET	CRT TUBE DISPLAY-PILOT	= TBD
	FLT DIR MODE SWITCH-PILOT	
	FLT DIR MODE SWITCH-PILOT	= TKR RNDVS

07.2.1.002.00*

SET TKR RNDVS BEARING AND HEADING PER OSO INSTRUCTIONS

SET	FLT DIR MODE SWITCH-PILOT	= TKR RNDVS
	COURSE SET KNOB	
	HEADING SET KNOB	

NAV BEARING POINTER-PILOT	= TBD*
AND CRT TUBE DISPLAY-PILOT	= TBD

07.2.1.007.00*

IDENTIFY TANKER VISUALLY*

IDENTIFY	OSO ICS	= RANGE CALL*
	AND CRT TUBE DISPLAYS	= TBD
	FLASHBLINDNESS WINDOW-LEFT	
	FLASHBLINDNESS WINDOW-RIGHT	
	FLASHBLINDNESS WINDOW-LEFT	= TKR IDENTIFIED
	AND FLASHBLINDNESS WINDOW-RIGHT	= TKR IDENTIFIED

07.2.1.008.00*

MONITOR CLOSURE ON TKR USING FLR/FLASHBLINDNESS THERM WINDOW*

MONITOR-VISUAL	FLASHBLINDNESS WINDOW-LEFT	= TKR IDENTIFIED
	AND FLASHBLINDNESS WINDOW-RIGHT	= TKR IDENTIFIED
	CRT DISPLAY SURFACE	
	FLASHBLINDNESS WINDOW-LEFT	
	FLASHBLINDNESS WINDOW-RIGHT	
	HORIZONTAL SITUATION INDICATOR	= PROPER CLOSURE*
AND FLASHBLINDNESS WINDOW-LEFT	= PROPER CLOSURE	

07.2.1.010.00*

DEPRESS ENGAGE PUSH-BUTTON ON AECS TO DISENGAGE AECS

DEPRESS	CRT DISPLAY SURFACE	= 1*
	PILOTS ENGAGE PUSHBUTTON	
	PILOTS ENGAGE PUSHBUTTON	= 'ENGAGE' - W

07.2.1.012.00*

SET FLC MODE SWITCH TO 'NAV'

FLASHBLINDNESS WINDOW-LEFT = TKR VISUAL
AND FLASHBLINDNESS WINDOW-RIGHT = TKR VISUAL

SET

FLT DIR MODE SWITCH-PILOT

FLT DIR MODE SWITCH-PILOT = NAV

OBJECTIVE: CLOSURE ON TANKER

7.11

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the vertical tape fuel indicators display gross quantities for all fuel tanks except EXT and WPN BAY.
2. Recall that the precise quantity for all tanks can be obtained with SEL TK indicators.
3. Recall that the pointer on the ACT tape indicates the existing CG position.
4. Recall that the pointer on the TGT tape indicates the desired GG location.
5. Recall that the TGT indicator can be set by the crew or is set automatically from the control mechanization.
6. Recall that the GROSS WT digital readout displays air vehicle gross weight in hundreds of pounds.

ANCILLARY OBJECTIVES:

1. Recall that with the crew air source switch positioned to OFF, no conditioned cabin air is provided to maintain proper cabin conditioning and pressurization.
2. Recall that the FWD and AFT cg indicators represent the forward and aft cg limits, respectively, as determined from the FCGMS computer.
3. Recall that the CG LIMITS caution light will illuminate when the air vehicle CG exceeds either the forward or aft limits.

OPERATOR: P/CP

TASK ELEMENTS: 7.2.1.3
7.2.1.4
7.2.1.5

07.2.1.003.00*

CHECK CABIN PRESSURE ALTITUDE INDICATOR*

	CHECKLIST	= SEQUENCE
CHECK	CABIN PRESS ALT INDICATOR	
	CABIN PRESS ALT INDICATOR	= TBD

07.2.1.004.00*

SET CREW AIR SOURCE TOGGLE SWITCH ON ECS PANEL TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	CREW AIR SOURCE MODE SWITCH	
	CREW AIR SOURCE MODE SWITCH	= OFF

07.2.1.005.00*

CHECK FLIGHT FUEL PANEL AND C.C. MANAGEMENT PANELS*

	CHECKLIST	= SEQUENCE
CHECK*	FUEL MGMT PNL	
	FUEL MGT PANEL	= TBD*
	AND PERCENT MACH INDICATOR	= TBD

OBJECTIVE: CLOSURE ON TANKER PROCEDURES

7.12

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Precision of closure instructions

ENABLING OBJECTIVES:

1. Recall FLR adjustment procedure for changes in tanker range.
2. Determine from FLR display that range to tanker is one mile.
3. Recall UHF operation procedures.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 7.2.1.6,
7.2.1.8
7.2.1.9

07.2.1.006.00*

INFORM TANKER OF B-1 RANGE*

INFORM

CRT DISPLAY SURFACE = 5

USD MICROPHONE SWITCH

TANKER COPILOT UHF = ACKNOWLEDGED

07.2.1.008.00*

MONITOR CLOSURE ON TKR USING FLR/FLASHBLINDNESS THERM WINDOW*

MONITOR-VISUAL

FLASHBLINDNESS WINDOW-LEFT = TKR IDENTIFIED
AND FLASHBLINDNESS WINDOW-RIGHT = TKR IDENTIFIED

CRT DISPLAY SURFACE
FLASHBLINDNESS WINDOW-LEFT
FLASHBLINDNESS WINDOW-RIGHT

HORIZONTAL SITUATION INDICATOR = PROPER CLOSURE*
AND FLASHBLINDNESS WINDOW-LEFT = PROPER CLOSURE

07.2.1.0 09.00*

INFORM TANKER OF ONE MILE RANGE

INFORM

CRT DISPLAY SURFACE = 1*

USD MICROPHONE SWITCH

TANKER COPILOT UHF = ACKNOWLEDGED

OBJECTIVE: ESTABLISH PRE-CONTACT POSITION

7.13

CRITICALITY: 3 DIFFICULTY: 1

INITIAL CONDITIONS:

1. Cruise configuration
2. Slipway doors open
3. Altimeter, heading or airspeed deviations
4. Range from tanker - 1 mile
5. A/V 1,000 ft below and visually in contact with tanker

CONCURRENT TASKS:

INTERACTION TASKS:

1. Pre-contact procedures
2. Pre-contact checklist

PERFORMANCE LIMITS:

1. Airspeed - TBD (\pm kts)
2. Altitude - TBD (\pm ft)
3. Heading - TBD (\pm deg)

ENABLING OBJECTIVES:

1. Calculate power level setting for pre-contact position.
2. Predict altitude lead to initiate pitch attitude change for level-off.
3. Predict necessary pitch change for climb and level-off.
4. Calculate wing sweep angle for refueling.
5. Coordinate control stick and throttles to achieve level-off.

ANCILLARY OBJECTIVES:

1. Calculate optimum fuel distribution to maintain proper cg during refueling.

OPERATOR: P/CP

TASK ELEMENTS: 7.2.1.9 7.2.2.1 7.2.2.9
 7.2.2.2 7.2.2.10
 7.2.2.3 7.2.2.16
 7.2.2.4
 7.2.2.5

07.2.1.009.00*

TRACK DESIRED ALTITUDE, HEADING AND AIRSPEED

	HSI-PILOT	= TBD
	AND AVVI-PILOT	= TBD
TRACK	PILOTS FLIGHT CONTROL STICK	
	PRIMARY THROTTLE LEVERS-PI	
	HSI-PILOT	= TBD*
	AND AVVI-PILOT	= TBD

07.2.2.001.00*

ADJUST THROTTLES TO DESIRED POSITION*

	CRT DISPLAY SURFACE	= 1
ADJUST	#3 THROTTLE LEVER	
	#3 THROTTLE LEVER	= ADJUSTED

07.2.2.002.00*

MONITOR AIRSPEED AND ADVISE PILOT

	CRT DISPLAY SURFACE	= 1*
MONITOR-VISUAL	AMI-PILOT	
	PILOT ICS	= ACKNOWLEDGED

07.2.2.003.00*

ESTABLISH CLIMB ATTITUDE AS DESIRED FOR PRE-CONTACT POSITION

	CRT TUBE DISPLAY-PILOT	= 1
	AND FLASHBLINDNESS WINDOW-LEFT	= TKR VISUAL
ESTABLISH	CRT TUBE DISPLAY-PILOT	
	PILOTS FLIGHT CONTROL STICK	
	CRT TUBE DISPLAY-PILOT	= TBD*

07.2.2.004.00*

MONITOR CLIMB RATE AND ADVISE PILOT

	AVVI-COPILOT	= TBD
	OR AVVI-COPILOT	= TBD
MONITOR-VISUAL	AVVI-COPILOT	
	PILOT ICS	= ACKNOWLEDGED

07.2.2.005.00*

MAINTAIN VISUAL CONTACT WITH TANKER

MAINTAIN

FLASHBLINDNESS WINDOW-LEFT > 0.5*

PILOTS FLIGHT CONTROL STICK

FLASHBLINDNESS WINDOW-LEFT = PROPER CLOSURE*

07.2.2.009.00*

SET WING SWEEP AS DESIRED

SET

PILOT ICS

= HOOKUP ENVELOPE

COPILOTS WING SWEEP HANDLE

COPILOTS WING SWEEP HANDLE = TBD

07.2.2.010.00*

ADJUST THROTTLES AS REQUIRED

ADJUST

FLASHBLINDNESS WINDOW-LEFT = PROPER CLOSURE

PRIMARY THROTTLE LEVERS-PI

FLASHBLINDNESS WINDOW-LEFT = PROPER CLOSURE

07.2.2.016.00*

TRACK TANKER AIRCRAFT IN PRECONTACT POSITION*

TRACK

FLASHBLINDNESS WINDOW-LEFT = PROPER POSITION

PRIMARY THROTTLE LEVERS-PI

PILOTS FLIGHT CONTROL STICK

PILOTS RUDDER PEDALS

FLASHBLINDNESS WINDOW-LEFT = PROPER POSITION*

OBJECTIVE: PRE-CONTACT PROCEDURES

7.14

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Slipway doors open
3. .5 mile range to tanker

CONCURRENT TASKS:

INTERACTION TASKS: 1. Pilot notifies crew air vehicle is within hookup envelope.

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall UHF operation procedures.

ANCILLARY OBJECTIVES:

1. Recall that all system filaments are still energized and that protective time delays are energized with the FLR in STBY.
2. Recall that FLR in STBY precludes any possibility that radiation energy might trigger an explosion while fuel is being unloaded.

OPERATOR: OSO

TASK ELEMENTS: 7.2.2.6
7.2.2.7

07.2.2.006.00*

INFORM BOMBER AND TANKER CREWS OF 0.5NM RANGE

INFORM

CRT DISPLAY SURFACE	= 0.5
USO MICROPHONE SWITCH	
PILOT ICS	= ACKNOWLEDGED
AND TANKER COPILOT UHF	= ACKNOWLEDGED

07.2.2.007.00*

SET FLB MODE SWITCH TO 'STBY'

SET

PILOT ICS	= HOOKUP ENVELOPE*
MODE SWITCH-RADAR SET-2	
MODE SWITCH-RADAR SET-2	= STBY

OBJECTIVE: PRE-CONTACT PROCEDURES

7.15

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Closing with tanker

CONCURRENT TASKS: 1. Flight control adjustments during closure

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the external lights silhouette the receiver air vehicle to assist the boom operator during hook-up and refueling.
2. Recall that the position lights are set to FLASH whenever the anti-collision lights are turned off.
3. Recall that extension of the slipway door handle positions the slipway door unlock to the open position, electrically turns on the refueling sequencer and puts the fuel system in the aerial refuel mode.
4. Recall that at the door full open position, the aerial refueling READY light and SLIPWAY EXT lights intensity control are armed.
5. Recall that by activating the TFR/TRR switch on the ICS panel, communications can be made with the tanker aircraft after boom contact has been established.

ANCILLARY OBJECTIVES:

1. Recall that the X-band transponder is positioned to standby to preclude the hazard of a radar signal triggering a fuel fumes explosion during the refueling operation.
2. Recall that the anti-collision lights are turned off to keep from distracting the boom operator during hook-up and while refueling is in progress.

OPERATOR: P/CP

TASK ELEMENTS: 7.2.2.8 7.2.2.13
7.2.2.11 7.2.2.14
7.2.2.12 7.2.2.15
7.2.2.17

07.2.2.008.00*

SET X-BAND XPNDR POWER SELECT SWITCH TO 'STBY'

	PILOT ICS	= HOOKUP ENVELOP
SET	POWER SELECT SWITCH-1	
	POWER SELECT SWITCH-1	= STBY

07.2.2.011.00*

SET ANTICLSN SWITCH TO 'OFF'

	BOOM OPERATOR UHF	= ANTICLSN - OFF
SET	ANTI-COLLISION CONTROL SWITCH	
	BOOM OPERATOR UHF	= CONFIRMS LTS OFF

07.2.2.012.00*

SET AERIAL REFUEL EXT AND WING FLOOD AND SLIPWAY LT CONTROLS

	BOOM OPERATOR UHF	= EXT AND SL - ON
SET	EXTERIOR LIGHTS SWITCH	
	SLIPWAY LIGHTS SWITCH	
	BOOM OPERATOR UHF	= CONFIRMS LTS ON

07.2.2.013.00*

ADJUST SLIPWAY AND EXT WING FLOOD LIGHTS AS REQUIRED

	BOOM OPERATOR UHF	= EXT AND SL - ADJ
ADJUST	EXTERIOR LIGHTS SWITCH	
	SLIPWAY LIGHTS SWITCH	
	BOOM OPERATOR UHF	= CONFIRMS LTS ADJ

07.2.2.014.00*

SET EXT POSITION LIGHTS TO FLASH

	PILOT ICS	= EXT LTS - FLASH
SET	POSITION LIGHT MODE SWITCH	
	POSITION LIGHT MODE SWITCH	= FLASH

07.2.2.015.00*

PULL SLIPWAY DOOR HANDLE TO 'REFUEL' POSITION

PILOT ICS

= SL DR - REFUEL

PULL

SLIPWAY DOOR HANDLE

OPEN-UNLOCKED CAUTION LIGHT = ON*

07.2.2.017.00*

SET AND ADJUST ICS TFR/TKR SWITCH

FLASHBLINDNESS WINDOW-LEFT = PROPER POSITION

SET

TFR-TKR CONTROL SWITCH-PILOT

TFR-TKR INDICATOR LIGHT-PILOT = ON*

OBJECTIVE: ESTABLISH CONTACT POSITION

7.16

CRITICALITY: 2 DIFFICULTY: 2

INITIAL CONDITIONS:

1. Tanker boom operator instructions for hook-up received.
2. Cruise configuration.
3. Slipway doors open.

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

1. Elevation - TBD (\pm ft)
2. Azimuth - TBD (\pm deg)
3. Longitudinal - TBD (- ft)

ENABLING OBJECTIVES:

1. Predict lead in power level setting to move air-vehicle from 100 ft aft of tanker to inside boom envelope.
2. Predict lead in pitch attitude change to move air-vehicle from 50 feet below tanker to contact position.
3. Coordinate control stick, rudders and throttles to achieve and maintain contact position.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 7.3.1.1
7.3.1.2

07.3.1.001.00*

TRACK WITH STICK AND THROTTLES AS REQUIRED FOR HOOKUP

TRACK

BOOM OPERATOR UHF

= POSN INSTRUCTS*

PILOTS FLIGHT CONTROL STICK
PRIMARY THROTTLE LEVERS-PI
PILOTS RUDDER PEDALS

FLASHBLINDNESS WINDOW-LEFT

= PROPER POSITION*

07.3.1.002.00*

TRACK TANKER IN CONTACT POSITION*

TRACK

FLASHBLINDNESS WINDOW-LEFT
AND BOOM OPERATOR UHF

= PROPER POSITION*

= STD BY - CONTACT

PILOTS FLIGHT CONTROL STICK
PRIMARY THROTTLE LEVERS-PI
PILOTS RUDDER PEDALS

FLASHBLINDNESS WINDOW-LEFT

= CONTACT MADE

OBJECTIVE: AERIAL REFUELING CONTACT PROCEDURES

7.17

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Slipway doors open
3. Boom operator calls tanker contact

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Fuel qty indicator TBD (\pm lbs.)
2. Cg indicator TBD (\pm %MAC)

ENABLING OBJECTIVES:

1. Recall that the LATCHED advisory light is on only when the refueling toggles are latched.
2. Recall the normal fuel filling sequencing during aerial refueling.
3. *Recall* the extremes (fwd and aft) limits of the c g and whether the actual c g is being maintained with the target c g.
4. *Recall* what the individual fuel quantity indicators should read throughout the refueling operation.

ANCILLARY OBJECTIVES:

1. Recall which fill valves should be opened and which transfer pumps should be operating.

OPERATOR: P/CP

TASK ELEMENTS: 7.3.2.1 7.3.2.5
 7.3.2.2
 7.3.2.3

07.3.2.001.00*

CHECK 'LATCHED' ADVISORY LIGHT IS ON

CHECK

BOOM OPERATOR UHF

= TANKER CONTACT

LATCHED ADVISORY LIGHT

FLASHBLINDNESS WINDOW-LEFT
AND LATCHED ADVISORY LIGHT

= CONTACT MADE*
= 'LATCHED'

07.3.2.002.00*

CHECK FUEL SEQUENCING DISPLAY

CHECK

FUEL MGT PANEL

= TBD*

FUEL MGT PANEL

FUEL MGT PANEL

= TBD

07.3.2.003.00*

MONITOR C.G. Z MAC DISPLAY

MONITOR-VISUAL

PERCENT MACH INDICATOR

= TBD

PERCENT MACH INDICATOR

PERCENT MACH INDICATOR

= TBD

07.3.2.005.00*

MONITOR FUEL QUANTITY INDICATORS

MONITOR-VISUAL

FUEL MGT PANEL
AND SELECT QUANTITY DIGITAL READ

=TBD*
=TBD

SELECT TANK SWITCH
FUEL MGT PANEL
COUNTER READOUT-TOTAL FUEL

FUEL MGT PANEL
AND SELECT QUANTITY DIGITAL READ

= TBD*
= TBD

OBJECTIVE:

EXECUTE AERIAL REFUELING

7.18

CRITICALITY: 3

DIFFICULTY: 3

INITIAL CONDITIONS:

1. Cruise configuration
2. Slipway doors open
3. Tanker contact

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

1. Elevation - TBD (\pm ft)
2. Azimuth - TBD (\pm deg)
3. Longitudinal - TBD (\pm ft)

ENABLING OBJECTIVES:

1. Coordinate control stick and throttles to maintain proper elevation and longitudinal position inside refueling envelope. As fuel is onloaded, the air vehicle becomes heavier and more angle of attack and power is required to hold contact position.
2. Coordinate lateral control stick and rudders to maintain wings level and zero azimuth position. Differential throttles could be used to assist in yaw control.
3. Predict visually by looking at tanker what control inputs are required to maintain contact.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 7.3.2.4

07.3.2.004.00*

ADJUST PITCH AND ROLL AS REQUIRED

ADJUST

FLASHBLINDNESS WINDOW-LEFT = TBD*

PILOTS FLIGHT CONTROL STICK

PILOTS FLIGHT CONTROL STICK = TBD

OBJECTIVE: DISCONNECT PROCEDURES

7.19

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS:

1. Cruise configuration
2. Hooked-up with tanker
3. Slipway doors open
4. Offload is complete

CONCURRENT TASKS:

INTERACTION TASKS:

1. When offload complete, Pilot Depresses AIR disconnect stick switch.
2. Copilot checks Aerial Refuel Disconnect Annunciator.

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that squeezing the trigger on the control stick to the first detent opens the aerial refueling toggle latches and resets the aerial refueling amplifier.
2. Recall that the disconnect light will illuminate whenever the refueling boom is removed from the refueling receptacle. The light will go out when the aerial refueling sequence is reset.
3. Recall that the tanker boom operator will withdraw the refueling probe and will stow the boom after disconnect.
4. Recall that the aerial refuel exterior and slipway lights are used to assist the boom operator and should be turned off after refueling is complete.

ANCILLARY OBJECTIVES:

1. Recall that pushing the slipway door handle up mechanically positions a hydraulic actuator to close and lock the slipway door. The OPEN/UNLKD light goes out, the refueling amplifier is turned off and the fuel system is returned to the non-refueling mode.
2. Recall that in the event of hydraulic pressure failure pushing the refuel handle up may not close the slipway door.

OPERATOR: P/CP

TASK ELEMENTS: 7.4.1.1
7.4.1.2
7.4.1.3
7.4.1.4
7.4.1.5
7.4.1.6
7.4.1.7

07.4.1.001.00*

DEPRESS A/R DISCONNECT STICK SWITCH

	FUEL MGT PANEL	= TBD
	AND SELECT QUANTITY DIGITAL READ	= TBD
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	FLASHBLINDNESS WINDOW-LEFT	= BOOM RELEASED

07.4.1.002.00*

CHECK AERIAL REFUEL DISCONNECT ANNUNCIATOR ADVISORY LIGHT

	FUEL MGT PANEL	= TBD
	AND SELECT QUANTITY DIGITAL READ	= TBD
CHECK	DISCONNECT CAUTION LIGHT	
	DISCONNECT CAUTION LIGHT	= 'DISC'*

07.4.1.003.00*

INFORM PILOT 'DISC' LIGHT IS ILLUMINATED*

	DISCONNECT CAUTION LIGHT	= 'DISC'
INFORM	PUSH-TO-TALK SWITCH-PILOT	
	PILOT ICS	= ACKNOWLEDGED

07.4.1.004.00*

INFORM TANKER BOOM OPERATOR 'DISCONNECT' COMPLETE

	DISCONNECT CAUTION LIGHT	= 'DISC'
INFORM	PUSH-TO-TALK SWITCH-PILOT	
	BOOM OPERATOR UHF	= ACKNOWLEDGED

07.4.1.005.00*

SET A/R EXTERIOR WING FLOOD AND SLIPWAY LIGHT CONTROLS

	DISCONNECT CAUTION LIGHT	= 'DISC'
SET	EXTERIOR LIGHTS SWITCH	
	SLIPWAY LIGHTS SWITCH	
	EXTERIOR LIGHTS SWITCH	= OFF
	AND SLIPWAY LIGHTS SWITCH	= OFF

07.4.1.006.00*

PUSH AERIAL REFUEL SLIPWAY DOOR HANDLE TO CLOSED POSITION

	CHECKLIST	= SEQUENCE
PUSH	SLIPWAY DOOR HANDLE	
	READY-NWS ADVISORY LIGHT	= OFF*

07.4.1.007.00*

SET ANTI-CLSN TOGGLE SWITCH TO 'ANTI-CLSN'

SET

FLASHBLINDNESS WINDOW-RIGHT = A-V SEPARATION

ANTI-COLLISION CONTROL SWITCH

ANTI-COLLISION CONTROL SWITCH = OFF

OBJECTIVE: POST-DISCONNECT MANEUVER

7.20

CRITICALITY: 2 DIFFICULTY: 2

INITIAL CONDITIONS: 1. Disconnect with tanker completed.
2. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm kts)
2. Altitude - TBD (\pm ft)
3. Heading - TBD (\pm degs)
4. Longitudinal - TBD (\pm ft)

ENABLING OBJECTIVES:

1. Predict power level setting to move aft and down from tanker.
2. Coordinate control stick and throttles to maintain adequate elevation and longitudinal positions.
3. Coordinate lateral control stick and rudders to maintain wings level directly behind the tanker.
4. Predict visually by viewing the tanker the required control inputs to maintain desired position.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 7.4.1.8
7.4.1.9
7.4.1.10
7.4.1.11
7.4.1.12
7.4.1.13

07.4.1.008.00*

MONITOR POSITION OF TANKER VISUALLY

MONITOR-VISUAL

FLASHBLINDNESS WINDOW-LEFT = A V SEPARATION
FLASHBLINDNESS WINDOW-LEFT
FLASHBLINDNESS WINDOW-LEFT = PROPER POSITION

07.4.1.009.00*

ADJUST THROTTLES TO 180 TO REDUCE AIRSPEED

ADJUST

AIRSPEED DISPLAY-PILOT = 180*
PRIMARY THROTTLE LEVERS-PI
AIRSPEED DISPLAY-PILOT = TBD

07.4.1.010.00*

ADJUST CONTROL STICK AS REQUIRED

ADJUST

#3 THROTTLE LEVER = IDLE
PILOTS FLIGHT CONTROL STICK
PITCH SCALE-PILOT = TBD

07.4.1.011.00*

CHECK VERTICAL SPEED INDICATOR (AVVI)

CHECK

PITCH SCALE-PILOT = TBD
AVVI-PILOT
AVVI-PILOT = TBD

07.4.1.012.00*

ADJUST TRIM SWITCH AS REQUIRED

ADJUST

PROPRIOCEPTION = ABOVE NORMAL*
PLT TRIM SW (ON CONTR STICK)
PROPRIOCEPTION = REDUCED

07.4.1.013.00*

TRACK WITH CONTROL STICK AS REQUIRED

TRACK

PITCH SCALE-PILOT = TBD
PILOTS FLIGHT CONTROL STICK
PITCH SCALE-PILOT = TBD

OBJECTIVE: DEPART TANKER

7.21

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. A-V clear from tanker
2. Cruise configuration

CONCURRENT TASKS: 1. Track with control stick to maintain level-off altitude.
2. Track with control stick and rudders to hold desired heading for the refueling track.
3. Reset power level to maintain desired airspeed.
4. Maintain post-refueling position.

PERFORMANCE LIMITS: 1. Vertical speed - TBD (\pm ft/min)
2. Airspeed - TBD (\pm kts)
3. Altitude - TBD (\pm ft)
4. Heading - TBD (\pm degs)

ENABLING OBJECTIVES:

1. Predict power level setting for descent and level-off behind tanker.
2. Predict necessary pitch change for level-off.
3. Coordinate control stick and throttles for descent and to achieve level-off.
4. Predict visually from viewing the tanker, the required control inputs to maintain post-refueling position.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 7.4.2.1
7.4.2.2
7.4.2.3
7.4.2.4
7.4.2.5

07.4.2.001.00*

CHECK VERTICAL SPEED INDICATOR (AVVI)

CHECK

PITCH SCALE-PILOT

= TBD

AVVI-PILOT

AVVI-PILOT

= TBD

07.4.2.002.00*

ADJUST TRIM SWITCH AS REQUIRED

ADJUST

PROPRIOCEPTION

= ABOVE NORMAL

PLT TRIM SW (ON CONTR STICK)

PROPRIOCEPTION

= REDUCED*

AND AVVI-PILOT

= TBD

07.4.2.003.00*

MONITOR TANKER POSITION VISUALLY

MONITOR-VISUAL

FLASHBLINDNESS WINDOW-LEFT

= A-V SEPARATION*

FLASHBLINDNESS WINDOW-LEFT

FLASHBLINDNESS WINDOW-LEFT

= PROPER POSITION

07.4.2.004.00*

ADJUST CONTROL STICK AS REQUIRED FOR LEVEL OFF

ADJUST

FLASHBLINDNESS WINDOW-LEFT

= PROPER POSITION*

PILOTS FLIGHT CONTROL STICK

AVVI-PILOT

= TBD

07.4.2.005.00*

ADJUST TRIM SWITCH AS REQUIRED

ADJUST

PROPRIOCEPTION

= ABOVE NORMAL

PLT TRIM SW (ON CONTR STICK)

PROPRIOCEPTION

= REDUCED*

OBJECTIVE: INITIATE CLIMB

7.22

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration.

CONCURRENT TASKS: 1. Track with control stick and rudders to hold desired heading.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Heading - TBD (\pm degrees)
 2. Airspeed - TBD (\pm kts)

ENABLING OBJECTIVES:

1. Calculate power level setting for climb.
2. Predict necessary pitch change for climb.
3. Coordinate control stick and throttles for smooth transition from level flight to desired climb attitude.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 7.4.2.6
 7.4.2.7

07.4.2.006.00*

ADJUST CONTROL STICK AS REQUIRED FOR CLIMB

ADJUST

PITCH SCALE-PILOT

=TBD

PILOTS FLIGHT CONTROL STICK

PITCH SCALE-PILOT

= TBD

07.4.2.007.00*

ADJUST THROTTLES TO INITIATE CLIMB

ADJUST

PITCH SCALE-PILOT

=TBD

#3 THROTTLE LEVER

AMI-PILOT

= TBD*

OBJECTIVE: ENGAGE ALTITUDE HOLD AND AUTO THROTTLE

7.23

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS:

1. Cruise configuration
2. Desired level-off altitude achieved
3. Desired cruise mach achieved

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

1. Proper sequence
2. Switches in proper position

ENABLING OBJECTIVES:

1. Recall that the alt hold and auto throt modes must be selected on the in command control panel.
2. Recall that the engage mode has to be selected before the altitude hold and auto throttle modes operate.

ANCILLARY OBJECTIVES:

1. Recall that the automatic throttle mode will not engage if the airspeed or mach hold modes are engaged.

OPERATOR: P/CP

TASK ELEMENTS: 7.4.2.8
7.4.2.9

07.4.2.008.00*

DEPRESS ALT HOLD PUSH-BUTTON ON AFCS MODE SELECT PANEL

AVVI-PILOT

= TED

DEPRESS

PLTS ALTITUDE HOLD PUSHBUTTON

PLTS ALTITUDE HOLD PUSHBUTTON = 'ALT'-G*

07.4.2.009.00*

DEPRESS AUTO THROTTLE PUSHBUTTON ON AFCS MODE SELECT PANEL

AMI-PILOT

= TED

DEPRESS

PILOTS AUTO THROT PUSHBUTTON

PILOTS AUTO THROT PUSHBUTTON = 'AUTO THROT'-G*

OBJECTIVE: END AERIAL REFUELING

7.24

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. Departing tanker

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO sets FLR mode switch to XMIT.
 2. OSO sets FLR selector switch to GND AUTO.

PERFORMANCE LIMITS: 1. Switches in proper positions.

ENABLING OBJECTIVES:

1. Recall that the TACAN mode selector was not in T/R during refueling to preclude the hazard of a transmitted signal triggering a fuel fumes explosion.
2. Recall that it is no longer necessary to monitor the aerial refueling UHF frequency.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 7.4.2.11
 7.4.2.12

07.4.2.011.00*

SET TACAN MODE SW TO 'T-R' AND SELECT APPROPRIATE CHANNEL*

CHECKLIST

= SEQUENCE

SET

CHANNEL SEL-KNOB TACAN
CHANNEL SEL-OUTER WHEEL-TACAN
MODE SELECTOR SWITCH-TACAN

CHANNEL SEL-KNOB TACAN = TBD
AND CHANNEL SEL-OUTER WHEEL-TACAN = TBD
AND MODE SELECTOR SWITCH-TACAN = T-R

07.4.2.012.00*

SET UHF RADIOS AS DESIRED

CHECKLIST

= SEQUENCE

SET

PILOT UHF COMM PANEL
COPILOT UHF COMM PANEL

PILOT UHF COMM PANEL = TBD
AND COPILOT UHF COMM PANEL = TBD

OBJECTIVE: END AERIAL REFUELING

7.25

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. CP sets TACAN mode switch to T/R
 2. P/CP set UHF radios as desired

PERFORMANCE LIMITS: 1. Proper sequence
 2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that the FLR rotary switch was positioned to STBY during the refueling operation to preclude the hazard of a radar transmission triggering a fuel-fumes explosion.
2. Recall that when the FLR mode switch is in the GND AUTO position, the range and azimuth cursors are controlled by the ACU.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 7.4.2.13
 7.4.2.14

07.4.2.013.00*

SET FLE MODE ROTARY SWITCH TO 'XMIT'

FUEL MGT PANEL = TBD
AND SELECT QUANTITY DIGITAL READ = TBD

SET

MODE SWITCH-RADAR SET-2

MODE SWITCH-RADAR SET-2 = XMIT*
AND CRT DISPLAY SURFACE = TBD

07.4.2.014.00*

SET FLE MODE SELECTOR SWITCH TO GND AUTO

FUEL MGT PANEL = TBD*
AND SELECT QUANTITY DIGITAL READ = TBD

SET

MODE SWITCH-RADAR SET

MODE SWITCH-RADAR SET = GND AUTO

MISSION SEGMENT 8

OBJECTIVE: DECODE EXECUTION ORDER

8.1

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO & DSO decode execution order

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall decoding procedure including appropriate documents.
2. Recall appropriate Mode 1 and Mode 3/A IFF codes to set into selector windows.
3. Recall from flight plan which IFF modes should be activated while in PCP orbit.

ANCILLARY OBJECTIVES:

1. Recall that execution order may be received at any time.

OPERATOR: P/CP

TASK ELEMENTS: 8.1.1.1
 8.1.1.2
 8.1.1.3

08.1.1.001.00*

MONITOR HF COMMUNICATIONS (ARC-122)*

	CLOCK-COPILOT	= TBD
MONITOR-AUDITORY	RADIO SET CONTROL PANEL	
	COPILOTS HF	= MESSAGE RECORDED

08.1.1.002.00*

DECODE HF COMMUNICATIONS

	COPILOTS HF	= MESSAGE RECORDED
DECODE	COPILOTS HF	
	COPILOTS HF	= MESSAGE DECODED

08.1.1.003.00*

CHANGE CODE SETTING ON IFF PANEL*

	CHECKLIST	= SEQUENCE*
CHANGE	IFF SYSTEM CONTROL	
	IFF SYSTEM CONTROL	= TBD*

OBJECTIVE: MONITOR/ADJUST SYSTEM AVIONICS

8.2

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that the selection of the bearing and heading sources for the BDHI is made at the front station.
2. Recall that the #1 needle is the relative bearing indicator for the TACAN. The #2 needle is either the bearing to a NAV checkpoint as selected by the ACU, or a bearing to a UHF/ADF station.
3. Recall how to adjust the FLR so the CRT displays the optimum presentation for the flight conditions being flown.
4. Recall how to adjust the MFD in the IR mode for the optimum presentation at the flight conditions being flown.
5. Recall how to adjust the left and right hand, SMS CRT for the optimum presentation under the lighting conditions in the cockpit.
6. Check the present position mission time and whether it is consistent with the flight plan.
7. Recall that the present position ground speed readout is dependent upon whether the display switch is on navigation, INS 1, INS 2, or DR.
8. Recall that the present position true heading readout is dependent upon whether the display switch is set on navigation INS 1, INS 2, or DR.
9. Recall that the present position ground track readout is dependent upon whether the display switch is set on navigation, INS 1, INS 2, or DR.

ANCILLARY OBJECTIVES:

1. Recall that the solid line on the attitude indicator's sphere represents the real world horizon. The scale at the bottom indicates the air vehicle's attitude in degrees.
2. Recall that the compass card in the BDHI can be driven either by the inertial platform (NAV) or by the gyro stabilization system (GSS).
3. Recall that the CITS mode switch has 12 positions, some of which are used in flight only and others for ground operation only.
4. Recall that a matrix of 50 switch indicators are used to identify failures and allow selection of subsystems for display of failure information.
5. Recall that the 50 switch indicators are split-screen indicators. The upper half identifies a failure and the lower half indicates the availability of A-N display messages.
6. Recall that the RCD INIT/DIS TEST switch is used to initiate a record and display a test on the CCD displays.
7. Recall that the left hand displays are of primary interest to the DSO and the right hand displays are of primary interest to the OSO.
8. Recall that a 20-character A-N readout is provided for display of CITS data that includes failure messages, failed LRU identification, etc.
9. Recall that the CITS can interface with two independent CITS indicators. The indicators will illuminate on computer command each time a new failure occurs.
10. Recall that the CMPTR/KYBD switch is used to display information from the computer or the keyboard.
11. Recall that the DIS RESET/DIS RECALL switch is used to reset the display and change the display to a former presentation.
12. Check that the present position wind direction and speed are from the most reliable source: IMU, doppler, last computed value, manually inserted or a memory point calculation.
13. Recall that the present position altitude displayed may be either system barometric altitude or absolute altitude.

OPERATOR: OSO

TASK ELEMENTS: 8.1.1.4

08.1.1.004.00*

MONITOR-ADJUST SYSTEM AVIONICS*

PRESENT POSITION LATITUDE =TBD
AND PRESENT POSITION LONGITUDE =TBD

MONITOR-VISUAL

PRESENT POSITION LATITUDE
PRESENT POSITION LONGITUDE

PRESENT POSITION LATITUDE = TBD*
AND PRESENT POSITION LONGITUDE = TBD

OBJECTIVE: RECEIVE AND VALIDATE MISSION EXECUTION ORDER

8.3

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS: 1. After communication copied, pilot tracks to turn on strike course

INTERACTION TASKS: 1. OSO & DSO validate message

PERFORMANCE LIMITS: 1. Correct sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall decoding procedure including determination of appropriate documents.
2. Recall that in operate position, CSSC operation cycle is initiated.
3. Recall that at the end of a CSSC operate cycle, steady CODE and ENABLE lights indicate transmittal of any of the six correct enable codes stored.
4. Recall that a valid code consists of a six letter designation.

ANCILLARY OBJECTIVES:

1. Recall that the CSSC controls the prearming of nuclear weapons.
2. Recall that at the end of a CSSC operate cycle steady CODE and DISABLE lights indicate transmittal of a valid sum check.
3. Recall that at the end of a CSSC operate cycle no light indicates transmittal of a wrong code.

OPERATOR: P/CP

TASK ELEMENTS: 8.1.2.1
8.1.2.2
8.1.2.3

08.1.2.001.00*

RECEIVE EXECUTION ORDER (ABC-123) COMMUNICATION*

PILOTS HF
AND USU HF

= MONITOR-AUDITORY*
= MONITOR-AUDITORY

RECEIVE

RADIO SIT CONTROL PANEL

PILOTS HF
AND USU HF

= MESSAGE RECORDED
= MESSAGE RECORDED

08.1.2.002.00*

OPEN CME CONTAINER*

PILOTS HF
AND USU HF

= VALID MESSAGE*
= VALID MESSAGE

OPEN

SECURE STORAGE CONTAINER

SECURE STORAGE CONTAINER

= OPENED

08.1.2.003.00*

PERFORM MESSAGE VALIDATION-AUTHENTICATION*

PILOTS HF
AND USU HF

= VALID MESSAGE*
= VALID MESSAGE

PERFORM

EXECUTION MESSAGE
AND EXECUTION MESSAGE

= VALIDATED*
= AUTHENTICATED

OBJECTIVE: TURN ON STRIKE COURSE

8.4

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS: 1. Track with control stick to maintain constant altitude.
2. Adjust power level to hold constant airspeed.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm kts)
2. Altitude - TBD (\pm ft)
3. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Predict heading lead to roll out on desired heading.
2. Coordinate control stick and rudders for roll into and roll out of turn.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 8.1.2.4

08.1.2.004.00*

TRACK WITH FLIGHT CONTROLS TO TURN ON STRIKE COURSE

PILOTS HF
AND OSO HF

= VALID MESSAGE
= VALID MESSAGE

TRACK

PILOTS FLIGHT CONTROL STICK

HSI-PILOT

= TBD*

OBJECTIVE: HHCL ENTRY PROCEDURES

8.5

CRITICALITY: 2 DIFFICULTY

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO sets FLR mode switch in STBY

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that all external lights are turned off and all radio and radar transmission signals are muted to preclude detection of the penetrating air vehicle.
2. Recall that the SLIPWAY & EXT lights intensity control is armed only when the slipway door is fully opened.

ANCILLARY OBJECTIVES:

1. Recall that if the slipway door becomes stuck in the open position, the SLIPWAY & EXT lights should be checked off.

OPERATOR: P/CP

TASK ELEMENTS: 8.2.1.1
8.2.1.2
8.2.1.3
8.2.1.4
8.2.1.5
8.2.1.6
8.2.1.8

08.2.1.001.00*

SET IFF MASTER CONTROL SELECT SWITCH TO 'STRY'*

HHCL = CROSSED
SET MASTER CONTROL SELECT SWITCH
MASTER CONTROL SELECT SWITCH = STRY

08.2.1.002.00*

SET ANTI CLSN LIGHT SWITCH TO 'OFF'*

CHECKLIST = SEQUENCE
SET ANTI-COLLISION CONTROL SWITCH
ANTI-COLLISION CONTROL SWITCH = OFF

08.2.1.003.00*

SET EXTERNAL POSITION LIGHT SELECT SWITCH TO 'OFF'*

CHECKLIST = SEQUENCE
SET POSITION LIGHT SWITCH
POSITION LIGHT SWITCH = OFF

08.2.1.004.00*

OBSERVE THAT AERIAL REFUEL EXTERIOR AND SLIPWAY LT SWS - OFF

CHECKLIST = SEQUENCE
CHECK EXTERIOR LIGHTS SWITCH
SLIPWAY LIGHTS SWITCH
EXTERIOR LIGHTS SWITCH = OFF
AND SLIPWAY LIGHTS SWITCH = OFF

08.2.1.005.00*

SET ILS (ARN-108) POWER SWITCH TO 'OFF'*

CHECKLIST = SEQUENCE
SET POWER SWITCH-ILS
POWER SWITCH-ILS = OFF

08.2.1.006.00*

SET TACAN MODE SELECTOR SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	MODE SELECTOR SWITCH-TACAN	
	MODE SELECTOR SWITCH-TACAN	= OFF

08.2.1.008.00*

SET X-BAND XPNDR PWR SWITCHES TO 'OFF' (PANEL #1.#2)

	CHECKLIST	= SEQUENCE
SET	POWER SELECT SWITCH	
	POWER SELECT SWITCH	= OFF

OBJECTIVE: HHCL ENTRY PROCEDURES

8.6

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP set external light switches to off position
2. P/CP set TACAN, IFF and X-Bad XPNDR to off position

ENABLING OBJECTIVES:

1. Recall that with the FLR mode switch in STBY, all system filaments and protective time delays are energized. The antenna is held in an azimuth limit with zero pitch and maximum up in tilt.

ANCILLARY OBJECTIVES:

1. Recall that the FLR is set to the standby position to minimize detection of the A/V penetrating enemy defenses.

OPERATOR: OSO

TASK ELEMENTS: 8.2.1.7

08.2.1.007.00*

SET FLR MODE ROTARY SWITCH TO 'STBY'

SET

CHECKLIST

= SEQUENCE

MODE SWITCH-RADAR SET-2

MODE SWITCH-RADAR SET-2

= STBY*

OBJECTIVE: PERFORM NUCLEAR PA/CONSENT PROCEDURES

8.7

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

1. Pilot Execute Nuclear PA/Consent concurrently
2. OSO request nuclear consent from pilot-pilot acknowledge
3. OSO acknowledge that flight station nuclear consent is complete.

PERFORMANCE LIMITS:

1. Proper sequence
2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that the racks unlock and safe/pre-arm switch is wired in series with the nuclear consent control at the pilot's station. This provides two-man control for both safed and armed releases.
2. Recall that the nuclear caution light will illuminate immediately after the pilot has selected PA and REL.
3. Recall that the nuclear caution light will go out after PA has been selected with the PA/SAFE switch and PA ENBL with the PA/ENBL/SAFE switch.

ANCILLARY OBJECTIVES:

1. Recall that when the nuclear caution light illuminates after both the pilot and OSO have prearmed a weapon, there is a nuclear consent disagreement and nuclear pre-arm fault.
2. Recall that pre-arming and safing missiles is constrained to location, i.e., by bay or all at once.
3. Recall that gravity stores can be pre-armed or safed individually.

OPERATOR: OSO

TASK ELEMENTS:

8.2.2.1	8.2.2.5
8.2.2.3	8.2.2.6
	8.2.2.7

08.2.2.001.00*

NOTIFY PILOT OF REQUEST FOR NUCLEAR CONSENT*

	OSO ICS	= INTENT TO PREARM*
COMMUNICATE	OSO INTERPHONE SWITCH	
	PILOT ICS	= ACKNOWLEDGED

08.2.2.003.00*

LIFT NCLR RACK UNL-SF SW GUARD THEN SET SW TO 'UNLOCK'

	PILOT ICS	= CONSENT COMPLETE*
SET	NUCLEAR RACK CONTROL SWITCH	
	NUCLEAR RACK CONTROL SWITCH	= UNLOCK

08.2.2.005.00*

LIFT PAENBL-SAFE SW GUARD, THEN SET SW TO 'PA ENBL'

	NUCLEAR RACK CONTROL SWITCH	= UNLOCK
SET	NUCLEAR PREARM ENABLE SWITCH	
	NUCLEAR PREARM ENABLE SWITCH	= PA ENBL

08.2.2.006.00*

SET PA-SAFE SWITCH TO 'PA'

	NUCLEAR PREARM ENABLE SWITCH	= PA ENBL
SET	PA-SAFE SWITCH	
	PA-SAFE SWITCH	= PA

08.2.2.007.00*

NOTIFY PILOT AFT STA NUCLEAR CONSENT PROCEDURES COMPLETE

	PA-SAFE SWITCH	= PA
COMMUNICATE	OSO INTERPHONE SWITCH	
	PILOT ICS	= ACKNOWLEDGED

OBJECTIVE: PERFORM NUCLEAR PA/CONSENT PROCEDURES

8.8

CRITICALITY: 2 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. OSO request for nuclear consent

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO Execute Nuclear PA/Consent concurrently.
 2. P notifies OSO that flight station nuclear consent
 is complete: OSO acknowledges.

PERFORMANCE LIMITS: 1. Proper sequence
 2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that the nuclear consent switch is wired in series with the racks unlock and safe/pre-arm control at the OSO's station. This provides two-man control for both safed and armed releases.
2. Recall that illumination of the nuclear caution light is a normal occurrence after the pilot has selected PA and REL.
3. Recall that the nuclear caution light will stay on until the OSO selects PA with the PA/SAFE switch and PA ENBL with the PA ENBL/SAFE switch.

ANCILLARY OBJECTIVES:

1. Recall that when the nuclear caution light illuminates after both the pilot and OSO have prearmed a weapon, there is a nuclear consent disagreement and nuclear pre-arm fault.
2. Recall that pre-arming and safing missiles is constrained to location, i.e., by bay or all at once.
3. Recall that gravity stores can be pre-armed or safed individually.

OPERATOR: P/CP

TASK ELEMENTS: 8.2.2.2
8.2.2.4
8.2.2.8

08.2.2.002.00*

LIFT NCLR CSNI SWT GUARD AND SWITCH TO 'PA AND REL' POSN*

	PILOT ICS	= ACKNOWLEDGED
SET	NUCLEAR CONSENT SWITCH	
	NUCLEAR CONSENT SWITCH	= PA-REL

08.2.2.004.00*

CHECK NUCLEAR CAUTION ANNUNCIATOR ILLUMINATED

	OSD ICS	= ACKNOWLEDGED
CHECK	NUCLEAR INDICATOR	
	NUCLEAR INDICATOR	= 'NUCLEAR'*

08.2.2.008.00*

CHECK NUCLEAR CAUTION ANNUNCIATOR IS BLANK

	PILOT ICS	= ACKNOWLEDGED*
CHECK	NUCLEAR INDICATOR	
	NUCLEAR INDICATOR	= OFF

OBJECTIVE: **INITIATE WEAPONS MONITORING**

8.9

CRITICALITY: **1** **DIFFICULTY:** **1**

INITIAL CONDITIONS: **1. Cruise configuration**

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: **1. Proper sequence**

ENABLING OBJECTIVES:

1. Recall that when either SMY, PRGM, INV, STAT, or FAULT in the data group has been selected, selection of a DIS (L,R,MFD, OR KYBD) switch deactivates the data switch.

ANCILLARY OBJECTIVES:

1. Recall that formats are replaced on the SMS, MFD, and IKB CRT displays on last requested priority basis.
2. Recall that a particular display can be blanked by selecting the appropriate DIS switch when a DATA switch has not been selected.
3. Recall that DATA functional switches are deactivated by the selection of a DIS location.

OPERATOR: **OSO**

TASK ELEMENTS: **8.2.3.1**
 8.2.3.2

08.2.3.001.00*

DEPRESS 'SMS' + 'L' ON SMS PANEL FOR DATA DISPLAY ON L CRT

DISPLAY TUBE SURFACE-SMS CRT →=SMY ON LEFT SIDE

DEPRESS

SMY DATA CONTROL SWITCH
L DIS SELECTOR PUSHBUTTON

DISPLAY TUBE SURFACE-SMS CRT = SMY ON LEFT SIDE*

08.2.3.002.00*

DEPRESS 'INV' + 'R' ON SMS PANEL FOR FULL INVTRY DATA DISPLAY

DISPLAY TUBE SURFACE-SMS CRT →=INV ON RT SIDE

DEPRESS

INV DATA CONTROL SWITCH
R DIS SELECTOR PUSHBUTTON

DISPLAY TUBE SURFACE-SMS CRT = INV ON RT SIDE*

MISSION SEGMENT 9

OBJECTIVE: ESTABLISH SUPERSONIC FLIGHT

9.1

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS: 1. Track with control stick to maintain constant altitude.
2. Track with control stick to maintain heading.

INTERACTION TASKS: 1. OSO and DSO complete checklists.

PERFORMANCE LIMITS: 1. Altitude - TBD (\pm ft)
2. Heading - TBD (\pm degrees)
3. Airspeed - TBD (\pm mach)

ENABLING OBJECTIVES:

1. Calculate optimum wing sweep angle for various speeds.
2. Predict lead in power level setting to maintain supersonic speed.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	9.1.1.2	9.1.1.5
	9.1.1.3	9.1.1.6
	9.1.1.4	9.1.1.7

09.1.1.002.00*

DEPRESS ENGAGE ON AECS MODE PANEL TO DISENGAGE AECS

DEPRESS

PILOTS ENGAGE PUSHBUTTON

PILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-W

09.1.1.003.00*

ADVANCE THROTTLES TO MAXIMUM POWER

PILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-W

PRIMARY THROTTLE LEVERS-PI

PRIMARY THROTTLE LEVERS-PI = MAXIMUM POWER

09.1.1.004.00*

MONITOR ENGINE PERFORMANCE PARAMETERS*

MONITOR-VISUAL

PRIMARY THROTTLE LEVERS-PI = MAXIMUM POWER

ENGINE INSTRUMENTS

ENGINE INSTRUMENTS = MONITORED

09.1.1.005.00*

ADJUST WING SWEEP AS REQUIRED

ADJUST

PROPRIOCEPTION = ACCELERATION*

PILOTS WING SWEEP HANDLE

WING SWEEP POSITION INDICATOR = TBD

09.1.1.006.00*

ADJUST THROTTLES TO OBTAIN TBD KIAS

ADJUST

AMI-PILOT = TBD

PRIMARY THROTTLE LEVERS-PI

AMI-PILOT = TBD

09.1.1.007.00*

ACTUATE PITCH TRIM BUITION

ACTIVATE

PROPRIOCEPTION = ABOVE NORMAL*

PLT TRIM SW (ON CONTR STICK)

PROPRIOCEPTION = REDUCED

OBJECTIVE: PERFORM SUPERSONIC CLIMB

9.2

CRITICALITY: 1

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS: 1. Track with control stick and rudders to hold
desired heading.
2. Calculate fuel distribution to maintain
optimum c.g.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Heading - TBD (\pm degrees)
2. Airspeed - TBD (\pm mach)

ENABLING OBJECTIVES:

1. Calculate optimum wing speed angle at various speeds in climb.
2. Predict necessary pitch change to initiate supersonic climb.
3. Track with control stick to maintain supersonic climb schedule.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 9.1.1.8

09.1.1.008.00*

POSITION FLT CONTROLS FOR SUPERSONIC CLIMB SCHEDULE*

	AMI-PILOT	=TBD*
ADJUST	PILOTS FLIGHT CONTROL STICK	
	PILOTS RUDDER PEDALS	
	AMI-PILOT	= TBD

OBJECTIVE: LEVEL-OFF SUPERSONICALLY

9.3

CRITICALITY: 1

DIFFICULTY: 2

INITIAL CONDITIONS:

1. Cruise configuration - supersonic
2. Power level for supersonic climb - TBD
3. Vertical velocity - TBD
4. Air vehicle pitch attitude at supersonic climb angle - TBD

CONCURRENT TASKS:

1. Track with control stick and rudders to hold desired heading.
2. Calculate fuel distribution to maintain optimum c.g.

INTERACTION TASKS:

PERFORMANCE LIMITS:

1. Airspeed - TBD (\pm mach)
2. Heading - TBD (\pm degrees)
3. Altitude - TBD (\pm ft)

ENABLING OBJECTIVES:

1. Calculate power level setting for level-off.
2. Calculate optimum wing sweep angle for supersonic cruise.
3. Calculate altitude lead to initiate power level change.
4. Calculate altitude lead to initiate pitch attitude change.
5. Calculate necessary pitch change for level-off.
6. Track with control stick to maintain level-off altitude.
7. Adjust power level to maintain supersonic mach number.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 9.1.1.9
9.1.1.10

09.1.1.009.00*

POSITION FLT CONTROLS AS REQUIRED TO OBTAIN LEVEL-OFF

	AVVI-PILOT	=TBD*
ADJUST	PILOTS FLIGHT CONTROL STICK PILOTS RUDDER PEDALS	
	AVVI-PILOT	= TBD

09.1.1.010.00*

ADJUST THROTTLES TO POWER SETTING FOR SUPERSONIC CRUISE

	AVVI-PILOT	= TBD
ADJUST	PRIMARY THROTTLE LEVERS-PI	
	AMI-PILOT	= TBD

OBJECTIVE: ENGAGE AUTOPILOT AND ALTITUDE HOLD

9.4

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Supersonic cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that when a transfer of command is made, the AFCS will revert to the basic ENGAGE mode if AFCS is engaged except for TER FLW and AUTO THROT modes.
2. Recall that selection of the engage mode (TAKE COMD-green) provides flight path hold in the pitch axis and attitude hold in the roll axis.
3. Recall that in the FLT DIR mode coupling is provided to selected flight director functions on the FLT DIR panel.
4. Recall that the altitude hold mode is incompatible with either airspeed or mach hold modes.

ANCILLARY OBJECTIVES:

1. Recall that in the ENGAGE mode, control stick steering is provided by displacing the flight control sticks beyond .25 inch. A new reference value is established at the conditions existing when the flight control is returned to normal.
2. Recall that the flight director functions are: MAN HDG, NAV, ILS and ATLA

OPERATOR: P/CP

TASK ELEMENTS: 9.1.1.11
9.1.1.12
9.1.1.13
9.1.1.14

09.1.1.011.00*

DEPRESS 'TAKE CMD' SWITCHLIGHT ON AFCS MODE SELECT PANEL

AVVI-PILOT = TBD
AND AMI-PILOT = TBD

DEPRESS

PILOTS TAKE COMMAND PUSHBUTTON

PILOTS TAKE COMMAND PUSHBUTTON = 'TAKE CMD'-G

09.1.1.012.00*

DEPRESS 'ENGAGE' SWITCHLIGHT ON AFCS MODE SELECT PANEL

PILOTS TAKE COMMAND PUSHBUTTON = 'TAKE CMD'-G

DEPRESS

PILOTS ENGAGE PUSHBUTTON

PILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-G

09.1.1.013.00*

DEPRESS 'FLT DIR' SWITCHLIGHT ON AFCS MODE SELECT PANEL

PILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-G

DEPRESS

PILOTS FLT DIR PUSHBUTTON

PILOTS FLT DIR PUSHBUTTON = 'FLT DIR'-G

09.1.1.014.00*

DEPRESS 'ALT' SWITCHLIGHT ON AFCS MODE SELECT PANEL

AVVI-PILOT = TBD

DEPRESS

PLTS ALTITUDE HOLD PUSHBUTTON

PLTS ALTITUDE HOLD PUSHBUTTON = 'ALT'-G

OBJECTIVE: EXECUTE FLR UPDATE

9.5

CRITICALITY: 2

DIFFICULTY: 3

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P acknowledges FLR update communication.
2. Pilot observes AUTO PILOT steering correction on VSD.

PERFORMANCE LIMITS: 1. Proper sequence.
2. Switches in proper position.
3. Successful discrimination of CP.
4. X-hairs - TBD feet.

ENABLING OBJECTIVES:

1. Recall that when the PPC is IN, the tracking handle positions the FLR cursors and the ACU will accept a FLR update.
2. Recall that in GND AUTO, the range switch selects only one of the following ranges: 2.5, 5, 10, 30, 80 or 200.
3. Discriminate the CP on the radar scope from other radar returns in vicinity.
4. Recall that when GND VEL has been selected, the radar ground map remains stable on the display with the targets and cursors remaining at the center of the display.
5. Recall that in GND VEL, the range sweep selections are 7.5/2.5, 15/5, 30/10, 90/30, 160/80 or 200/200. The first and second numbers represent range sweep and display scale (diameter) in miles, respectively.
6. Recall that the UPDT QUAL of a selected point can be either 1, 2 or 3 where a high position accuracy is represented by number 1. A low quantity or relatively poor position accuracy is indicated by 3. With each switch depression the numbers sequence as follows: 1, 2, 3, 1, etc.
7. Recall that operating the sector toggle switch on the tracking handle causes the FLR antenna sector width to be reduced to $\pm 10^\circ$ about the azimuth cursor. The forward position of the switch selects narrow scan.
8. Recall that squeezing the enable switch on the tracking handle allows the X-hair cursors to be repositioned.
9. Recall that by depressing ENTER on the NAV CORR panel, when neither OVERFLY or EVS have been selected, initiates a position update based upon FLRX-hair position if PPC is in.

ANCILLIARY OBJECTIVES:

1. Recall that when the FLR mode switch is in GND AUTO, the range and azimuth cursors are controlled by the ACU.
2. Recall that the displayed Seq. No. has been entered into the ACU either via the mission tape or through the IKB.
3. Recall that the Seq. No. is controlled by both the Forward/Reverse switch and the right Cross Hair Control switches and activation of any one switch overrides any previous activation.
4. Recall that if the Kalman does not accept the update, the IN UPDT annunicator light goes off and UPDT REJ light comes on.
5. Recall that the UPDT REJ light flashes for 17 seconds at the rate of 4 flashes per second and then deactivates.
6. Recall that operating the sector toggle switch on the tracking handle to the off position selects the wide scan on the FLR antenna sector width.

OPERATOR: OSO

TASK ELEMENTS:

9.2.1.1	9.2.1.7	9.2.1.13
9.2.1.2	9.2.1.8	6.3.2.9 (same as 9.2.1.1 - 9.2.1.13)
9.2.1.3	9.2.1.9	
9.2.1.4	9.2.1.10	
9.2.1.5	9.2.1.11	
9.2.1.6	9.2.1.12	
11.5.2.1	11.5.2.5	11.5.2.9
11.5.2.2	11.5.2.6	11.5.2.10
11.5.2.3	11.5.2.7	11.5.2.11
11.5.2.4	11.5.2.8	11.5.2.12
		11.5.2.13

09.2.1.001.00*

SET FLR SELECT ROTARY SWITCH TO 'GND AUTO'*

SET

CRT DISPLAY SURFACE

= TBD

MODE SWITCH-RADAR SET

MODE SWITCH-RADAR SET

= GND AUTO

09.2.1.002.00*

SET PPC SWITCH ON RADAR SET CONTROL TO 'IN'

SET

CRT DISPLAY SURFACE

= TBD

PRESENT POSITION CORRECTION SW

PRESENT POSITION CORRECTION SW= IN

09.2.1.003.00*

OBSERVE NEXT SEQ NO IS A CP ON SEQ NO DIGITAL READOUT

OBSERVE

SEQUENCE NUMBER

= TBD

SEQUENCE NUMBER

SEQUENCE NUMBER

= TBD

AND PRE-PLANNED DATA SHEET

= TBD

09.2.1.004.00*

SET FLR RANGE SELECT ROTARY SWITCH TO DESIRED RANGE

SET

CRT DISPLAY SURFACE

= TBD*

RANGE SWITCH-FLR

RANGE SWITCH-FLR

= TBD*

09.2.1.005.00*

IDENTIFY CP OF INTEREST ON FLR CRT SCOPE

IDENTIFY

CRT DISPLAY SURFACE

= TBD*

CRT DISPLAY SURFACE

CRT DISPLAY SURFACE

= TBD*

09.2.1.006.00*

OBSERVE X-HAIR CURSOR POSITION RELATIVE TO CP

	RADAR CURSORS	= TBD*
OBSERVE	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= OBSERVED*

09.2.1.007.00*

SET FLR SELECT ROTARY SWITCH TO 'GND VEL'

	CRT DISPLAY SURFACE	= EXPANDED
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL*
	AND CRT DISPLAY SURFACE	= EXPANDED

09.2.1.008.00*

DEPRESS UPDT QUAL PUSHBUTTON SWITCH ON NAV CORR PANEL

	UPDATE QUALITY SELECTOR	= TBD*
DEPRESS	UPDATE QUALITY SELECTOR	
	UPDATE QUALITY SELECTOR	= TBD*

09.2.1.009.00*

SET NARROW SECTOR SCAN ON FLR WITH TRACKING HDLE PUSHBUTTON

	CRT DISPLAY SURFACE	= NARROW SECT SCAN*
DEPRESS	SECTOR SWITCH	
	CRT DISPLAY SURFACE	= NARROW SECT SCAN

09.2.1.010.00*

POSITION X-HAIR CURSORS TO COINCIDE WITH CHECKPOINT

	CRT DISPLAY SURFACE	= TBD*
POSITION	ENABLE SWITCH	
	X-HAIR CURSORS	= POSITIONED
	AND CRT DISPLAY SURFACE	= TBD

09.2.1.011.00*

DEPRESS 'ENTER' ON NAV CORR PANEL TO INTEGRATE CP UPDATE

X-HAIR CURSORS
AND CRT DISPLAY SURFACE

= POSITIONED
= TBD

DEPRESS

ENTER CONTROL

IN UPDT INDICATOR

= 'IN UPDT'*

09.2.1.012.00*

ADVISE PILOT FLR UPDATE HAS BEEN ACCEPTED AND IS COMPLETE

IN UPDT INDICATOR

= OFF*

COMMUNICATE

OSO INTERPHONE SWITCH

PILOT ICS

= ACKNOWLEDGED

09.2.1.013.00*

OBSERVE AUTOPILOT STEERING CORRECTION ON VSD

OSO ICS

= UPDATE COMPLETED

OBSERVE

VERTICAL SITUATION DISPLAY

VERTICAL SITUATION DISPLAY

= OBSERVED*

06.3.2.009.00*

EXECUTE PRESENT POSITION UPDATE - AS REQUIRED*

COMBAT MISSION FOLDER	= CHECKED
AND PRESENT POSITION LONGITUDE	= ERROR

SAME AS 9.2.1.1 - 9.2.1.13

AND

11.5.2.1 - 11.5.2.13

11.5.2.001.00*

SET FLR SELECT ROTARY SWITCH TO 'GND AUTO'*

	CRT DISPLAY SURFACE	= TBD*
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND AUTO

11.5.2.002.00*

SET PPC SWITCH ON RADAR SET CONTROL TO 'IN'

	CRT DISPLAY SURFACE	= TBD*
SET	PRESENT POSITION CORRECTION SW	
	PRESENT POSITION CORRECTION SW= IN	

11.5.2.003.00*

OBSERVE NEXT SEQ NO IS A CP ON SEQ NO DIGITAL READOUT

	SEQUENCE NUMBER	= TBD*
CHECK	SEQUENCE NUMBER	
	SEQUENCE NUMBER	= TBD
	AND PRE-PLANNED DATA SHEET	= TBD

11.5.2.004.00*

SET FLR RANGE SELECT ROTARY SWITCH TO DESIRED RANGE

	CRT DISPLAY SURFACE	= TBD*
SET	RANGE SWITCH-FLR	
	RANGE SWITCH-FLR	= TBD*

11.5.2.005.00*

IDENTIFY CP OF INTEREST ON FLR CRT SCOPE

	CRT DISPLAY SURFACE	= TBD*
IDENTIFY	CHECK POINT	
	CRT DISPLAY SURFACE	= TBD*

11.5.2.006.00*

OBSERVE X-HAIR CURSOR POSITION RELATIVE TO CP

	RADAR CURSORS	= TBD*
CHECK	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= OBSERVED*

11.5.2.007.00*

SET FLR SELECT ROTARY SWITCH TO 'GND VEL'

	CRT DISPLAY SURFACE	→=EXPANDED
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL*
	AND CRT DISPLAY SURFACE	= EXPANDED

11.5.2.008.00*

DEPRESS UPDT QUAL PUSHBUTTON SWITCH ON NAV CORR PANEL

	UPDATE QUALITY SELECTOR	= '1'*
	OR UPDATE QUALITY SELECTOR	= '3'
DEPRESS	UPDATE QUALITY SELECTOR	
	UPDATE QUALITY SELECTOR	= '1'*
	OR UPDATE QUALITY SELECTOR	= '3'

11.5.2.009.00*

SET NARROW SECTOR SCAN ON FLR WITH TRACKING HOLE PUSHBUTTON

	CRT DISPLAY SURFACE	→=NARROW SECT SCAN*
DEPRESS	SECTOR SWITCH	
	CRT DISPLAY SURFACE	= NARROW SECT SCAN

11.5.2.010.00*

POSITION X-HAIR CURSORS TO COINCIDE WITH CHECK POINT

	CRT DISPLAY SURFACE	→=TBD*
DEPRESS	ENABLE SWITCH	
	X-HAIR CURSORS	= POSITIONED
	AND CRT DISPLAY SURFACE	= TBD

11.5.2.011.00*

DEPRESS 'ENTER' ON NAV CORR PANEL TO INTEGRATE CP UPDATE

	X-HAIR CURSORS	= POSITIONED
	AND CRT DISPLAY SURFACE	= TBD
DEPRESS	ENTER CONTROL	
	IN UPDT INDICATOR	= 'IN UPDT'*

11.5.2.012.00*

ADVISE PILOT FLR UPDATE HAS BEEN ACCEPTED AND IS COMPLETE

	IN UPDT INDICATOR	= OFF*
COMMUNICATE	OSO ICS	
	PILOT ICS	= ACKNOWLEDGED

11.5.2.013.00*

OBSERVE AUTOPILOT STEERING CORRECTION ON VSD

	OSO ICS	= UPDATE COMPLETED
MONITOR-VISUAL	STEERING COMMAND SYMBOL-PIL	
	STEERING COMMAND SYMBOL-COP	
	STEERING COMMAND SYMBOL-PIL	= TBD*
	AND STEERING COMMAND SYMBOL-COP	= TBD

OBJECTIVE: EXECUTE ALTITUDE CALIBRATION

9.6

CRITICALITY: 2

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE TASKS:

1. X-hair lay TBD ($\frac{1}{2}$ ft)
2. Proper sequence
3. Proper switch positions

ENABLING OBJECTIVES:


1. Recall that when GND VEL has been selected, the radar ground map remains stable on the display with the targets and cursors remaining at the center of the display.
2. Recall that in GND VEL, the range sweep selections are 7.5/2.5, 15/5, 20/10, 90/30, 160/80 or 200/200. The first and second numbers represent range sweep and display scale (diameter) in miles, respectively.
3. Recall that squeezing the enable switch permits all tracking handle functions except changing the sector width.
4. Recall how to identify the calibration point from other radar returns in the vicinity.
5. Recall that prior to an altitude calibration, the ELEV/ \blacktriangle ALT switch will be lit to indicate the terrain elevation of the calibration point.
6. Recall that if the ACPT/REJ toggle switch is set to REJ, the ELEV/ \blacktriangle ALT indicators will blank until the start of the turn to the next planned calibration destination.
7. Recall how to evaluate the \blacktriangle ALT readout for acceptability.

ANCILLARY OBJECTIVES:

1. Recall that if the correct ground speed is used the X-hairs will not drift from the scheduled elevation calibration point.

ANCILLARY OBJECTIVES: (continued.)

2.

2. Recall that the terrain elevation will be shown on the elevation/
altitude indicator as a numerical readout.

OPERATOR: OSO

<u>TASK ELEMENTS:</u>	9.2.2.2	10.2.4.1	11.5.3.1
	9.2.2.3	10.2.4.2	11.5.3.2
	9.2.2.4	10.2.4.3	11.5.3.3
	9.2.2.5	10.2.4.4	11.5.3.4
	9.2.2.6	10.2.4.5	11.5.3.5
	9.2.2.9	10.2.4.6	11.5.3.6
	9.2.2.10	10.2.4.7	11.5.3.7
	9.2.2.11	10.2.4.8	11.5.3.8
	9.2.2.12	10.2.4.9	11.5.3.9
	9.2.2.13	10.2.4.10	11.5.3.10
		10.2.4.11	

09.2.2.002.00*

SET ROTARY MODE SWITCH ON FLR CONTROL PANEL TO 'GND VEL'*

	CRT DISPLAY SURFACE	= HI-ALTIT CALIB.
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL

09.2.2.003.00*

DEPRESS TH 'ENBL' SW TO COMMAND FLR ANT TO MAX DNWD ANGLE*

	ANTENNA TILT INDICATOR	= 0
DEPRESS	ENABLE SWITCH	
	ANTENNA TILT INDICATOR	= -30
	AND CRT DISPLAY SURFACE	= READY

09.2.2.004.00*

DEPRESS TH 'ENBL' SW TO POSITION RNG CURS ON NEAREST RETURN

	RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= POSITIONED*
	AND CRT DISPLAY SURFACE	= OBSERVED

09.2.2.005.00*

DETERMINE GRD RTN 'COINCIDES' WITH SCHEDULED ELEV CALIB PT*

	STEERING DISTANCE READOUT	= TBD*
DETERMINE	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*
	AND RANGE CURSORS	= POSITIONED

09.2.2.006.00*

DEPRESS TH 'ENBL' SWITCH TO POSN RNG CURSOR FOR FINE ADJUSTM

	CRT DISPLAY SURFACE	= TBD
	AND RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= COINCIDENT*

09.2.2.009.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTI CALIBRATION*

DEPRESS

ALTITUDE-ELEVATION SELECTOR = 'ELEV'-FLASHING

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = 'DALT'*

09.2.2.010.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

DEPRESS

AIR-VEHICLE = DUF
AND STEERING TIME READOUT = 0

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

09.2.2.011.00*

EVALUATE DALT READOUT VALUE ON 'ALT CALBR' DIGITAL INDICATOR*

EVALUATE

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY

ELEVATION-DELTA ALTITUDE IND

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

09.2.2.012.00*

SET 'ACPI-BEJ' TOGGLE SWITCH TO 'ACPI'

SET

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

ALTITUDE CALIBRATION SWITCH

IN UPDT INDICATOR = 'IN UPDT'

09.2.2.013.00*

NOTE KALMAN FILTER ACCEPTANCE OF ALTITUDE UPDATE

OBSERVE

IN UPDT INDICATOR = OFF*
AND ELEVATION-DELTA ALTITUDE IND = OFF

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = OFF

10.2.4.001.00*

SET ROTARY MODE SWITCH ON FLR CONTROL PANEL TO 'GND VEL'

	CRT DISPLAY SURFACE	= LOW-ALTIT CALIB
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL

10.2.4.002.00*

DEPRESS TH 'ENBL' SW TO COMMAND FLR ANT TO MAX DNWD ANGLE

	ANTENNA TILT INDICATOR	= 0
DEPRESS	ENABLE SWITCH	
	ANTENNA TILT INDICATOR	= -30
	AND CRT DISPLAY SURFACE	= READY

10.2.4.003.00*

DEPRESS TH 'ENBL' SW TO POSITION RNG CURS ON NEAREST RETURN*

	RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= POSITIONED*
	AND CRT DISPLAY SURFACE	= OBSERVED

10.2.4.004.00*

DETERMINE GRD BTN 'COINCIDES' WITH SCHEDULED ELEV CALIB PI*

	STEERING DISTANCE READOUT	= TBD*
DETERMINE	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*
	AND RANGE CURSORS	= POSITIONED

10.2.4.005.00*

DEPRESS TH 'ENBL' SWITCH TO POSN RNG CURSOR FOR FINE ADJUSTM

	CRT DISPLAY SURFACE	= TBD
	AND RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= COINCIDENT*

10.2.4.006.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTI CALIBRATION*

DEPRESS

ALTITUDE-ELEVATION SELECTOR = 'ELEV'-FLASHING
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'*

10.2.4.007.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

DEPRESS

AIR-VEHICLE = DCF
AND STEERING TIME READOUT = 0
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

10.2.4.008.00*

EVALUATE DALT READOUT VALUE ON 'ALT CALBR' DIGITAL INDICATOR*

EVALUATE

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY
ELEVATION-DELTA ALTITUDE IND
ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

10.2.4.009.00*

SET 'ACPT-REJ' TOGGLE SWITCH TO 'ACPT'

SET

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE
ALTITUDE CALIBRATION SWITCH
IN UPDT INDICATOR = 'IN UPDT'

10.2.4.010.00*

NOTE KALMAN FILTER ACCEPTANCE OF ALTITUDE UPDATE

OBSERVE

IN UPDT INDICATOR = OFF*
AND ELEVATION-DELTA ALTITUDE IND = OFF
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = OFF

10.2.4.011.00*

SET TRUE ALTITUDE (MSL) IN PRESSURE ALTIMETERS

	CHECKLIST	= SEQUENCE
SET	AVVI-PILOT	
	AVVI-COPILOT	
	BAROMETRIC SETTING KNOB	
	AVVI-PILOT	= TBD*
	AND AVVI-COPILOT	= TBD
	AND BAROMETRIC SETTING KNOB	= TBD

11.5.3.001.00*

SET ROTARY MODE SWITCH ON FLR CONTROL PANEL TO 'GND VEL'*

	CRT DISPLAY SURFACE	= LOW-ALTIT CALIB.
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL

11.5.3.002.00*

DEPRESS TH 'ENBL' SW TO COMMAND FLR ANT TO MAX DNWD ANGLE*

	ANTENNA TILT INDICATOR	= 0
DEPRESS	ENABLE SWITCH	
	ANTENNA TILT INDICATOR	= -30
	AND CRT DISPLAY SURFACE	= TBD

11.5.3.003.00*

DEPRESS TH 'ENBL' SW TO POSITION RNG CURS ON NEAREST RETURN

	RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= POSITIONED*
	AND CRT DISPLAY SURFACE	= TBD

11.5.3.004.00*

DETERMINE GRD RTN 'COINCIDES' WITH SCHEDULED ELEV CALIB PT*

	STEERING DISTANCE READOUT	= TBD*
CHECK	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*
	AND RANGE CURSORS	= POSITIONED

11.5.3.005.00*

DEPRESS TH 'ENBL' SWITCH TO POSN RNG CURSOR FOR FINE ADJUSTM

	CRT DISPLAY SURFACE	= TBD
	AND RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= COINCIDENT*

11.5.3.006.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTIM CALIBRATION*

ALTITUDE-ELEVATION SELECTOR = 'ELEV'-FLASHING
DEPRESS ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'*

11.5.3.007.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

AIR-VEHICLE = DOF
AND STEERING TIME READOUT = 0
DEPRESS ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

11.5.3.008.00*

EVALUATE DALT READOUT VALUE ON 'ALT CALBR' DIGITAL INDICATOR*

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY
EVALUATE ELEVATION-DELTA ALTITUDE IND
ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

11.5.3.009.00*

SET 'ACPT-REJ' TOGGLE SWITCH TO 'ACPT'

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE
SET ALTITUDE CALIBRATION SWITCH
IN UPDT INDICATOR = 'IN UPDT'

11.5.3.010.00*

NOTE KALMAN FILTER ACCEPTANCE OF ALTITUDE UPDATE

IN UPDT INDICATOR = OFF*
AND ELEVATION-DELTA ALTITUDE IND = OFF
CHECK ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = OFF

OBJECTIVE: PERFORM IP ACQUISITION

9,7

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. Advise pilot IP target has been acquired.

PERFORMANCE LIMITS: 1. X-hair lay = TBD (+ ft)
 2. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the sequence number defines the TTD and DIST data on the display.
2. Recall that TTD indicates in hours and minutes until within one minute prior to the IP when the right two digits will display time in seconds.
3. Recall that by depressing the DEST X-hair control, the X-hairs will be positioned on the IP.
4. Recall how to distinguish between the IP radar signature and other returns in the vicinity.

ANCILLARY OBJECTIVES:

1. Recall how to reposition the X-hairs on the IP return if the X-hairs do not overlay the IP.

OPERATOR: OSO

TASK ELEMENTS: 9.3.1.1
 9.3.1.2
 9.3.1.3
 9.3.1.4
 9.3.1.5

09.3.1.001.00*

OBSERVE PROGRAMMED SEQ NO IS A DOF ON SEQ NO DIGITAL READOUT

	NUMBER IDENTIFIER-STEERING	= 'DOF'
	AND STEERING SEQUENCE NUMBER	= TBD
OBSERVE	STEERING SEQUENCE NUMBER	
	PRE-PLANNED DATA SHEET	
	STEERING SEQUENCE NUMBER	= TBD*
	AND PRE-PLANNED DATA SHEET	= TBD

09.3.1.002.00*

OBSERVE ITD READOUT ON STEERING TIME READOUT

	STEERING TIME READOUT	= TBD
OBSERVE	STEERING TIME READOUT	
	STEERING TIME READOUT	= TBD*

09.3.1.003.00*

DEPRESS 'DEST' LIGHTED PUSHBUTTON TO ACQUIRE X-HAIR CONTROL

DEPRESS	DESTINATION X-HAIR CONTROL	
	GRAVITY TARGETS X-HAIR CONTROL= ON	
	AND CRT DISPLAY SURFACE	= TBD

09.3.1.004.00*

IDENTIFY INITIAL POINT-TARGET

	DESTINATION X-HAIR CONTROL	= ON
IDENTIFY	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*

09.3.1.005.00*

ADVISE PILOT IP-TARGET HAS BEEN ACQUIRED

	CRT DISPLAY SURFACE	= TBD*
COMMUNICATE	USO INTERPHONE SWITCH	
	PILOT ICS	= ACKNOWLEDGED

OBJECTIVE: PERFORM GRAVITY STORE PRE-RELEASE

9.8

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO perform GRAVITY STORE PRE-RELEASE concurrently.

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the Point/Sequence readout displays a T for target.
2. Recall that the TTD will indicate in minutes between IP and TGT until one minute prior to release when it will indicate time in seconds.
3. Recall that BOMB will be displayed for all types of nuclear or conventional gravity bombs and OMSL for offensive missiles.
4. Recall that the bay from which the next store is to be released is illuminated 99 seconds prior to release of either a SRAM or a gravity weapon.
5. Recall that the steering mode legend BOMB appears in the lower right-hand corner of the DU screen. Any steering command information on the VSD will be referenced to the bomb run.

ANCILLARY OBJECTIVES:

1. Recall that it is possible for two bay indicators to be illuminated simultaneously since both a SRAM and gravity can be in countdown concurrently.

OPERATOR: P/CP

TASK ELEMENTS: 9.3.2.1
 9.3.2.5
 9.3.2.6
 9.3.2.7
 9.3.2.8

09.3.2.001.00*

OBSERVE CURRENT SMWDP SEQ NO IS A GRAVITY WEAPON RELEASE*

NUMBER IDENTIFIER-STEERING = 'TG'
AND TYPE STORE INDICATOR = 'BOMB'

OBSERVE

SEQUENCE NUMBER
SEQUENCE POINT READOUT
SEQUENCE NUMBER IDENTIFIER

NUMBER IDENTIFIER-STEERING = 'TG'

09.3.2.005.00*

OBSERVE ITG INDICATOR ON PILOT STORES PANEL

TIME-TO-GO READOUT > 0*

OBSERVE

TIME-TO-GO READOUT

SEQUENCE POINT READOUT = T
AND TIME TO GO-RANGE DISPLAY-PIL = TBD

09.3.2.006.00*

CHECK SELECTED STORE TYPE ON PILOT STORES PANEL

TIME-TO-GO READOUT > 0

CHECK

TYPE STORE INDICATOR

TYPE STORE INDICATOR = 'BOMB'

09.3.2.007.00*

IDENTIFY SELECTED GRAVITY STORE BAY LOCATION ON PLT STRS PAN*

TIME-TO-GO READOUT > 0

IDENTIFY

BAY INDICATOR-FORWARD LIGHT
BAY INDICATOR-INTMD LIGHT
BAY INDICATOR-AFT LIGHT

BAY INDICATOR-FORWARD LIGHT = FWD
OR BAY INDICATOR-AFT LIGHT = AFT

09.3.2.008.00*

OBSERVE THAT BOMB STEERING IS INITIATED

TIME-TO-GO READOUT > 0

OBSERVE

STEERING MODE LEGEND-PILOT

STEERING MODE LEGEND-PILOT = 'BOMB'

OBJECTIVE: PERFORM GRAVITY STORE PRE-RELEASE

9.9

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP performs GRAVITY STORE PRE-RELEASE concurrently.

PERFORMANCE LIMITS: 1. Proper sequence.
 2. Proper switch positions.

ENABLING OBJECTIVES:

1. Recall that TG shows at two locations on the navigation panel.
2. Recall that the gravity target sequence number defines the TTD and DIST data on the display.
3. Recall that the TTD will indicate in minutes between IP and TGT until within one minute prior to release when it will indicate time in seconds.
4. Recall that by depressing PRGM and R DIS, the next program scheduled for release will be displayed on the right SMS CRT.
5. Recall that by depressing STAT and L DIS, the weapon status at all locations will be displayed on the left SMS CRT.

ANCILLARY OBJECTIVES:

1. Recall that it may not be necessary to depress the bomb delivery AUTO/MAN switch, if the next check point is a TGT.

OPERATOR: OSO

TASK ELEMENTS: 9.3.2.1
 9.3.2.2
 9.3.2.3
 9.3.2.4

09.3.2.001.00*

OBSERVE CURRENT SMWDP SEQ NO IS A GRAVITY WEAPON RELEASE*

NUMBER IDENTIFIER-STEERING = 'TG'
AND TYPE STORE INDICATOR = 'BOMB'

OBSERVE

SEQUENCE NUMBER
SEQUENCE POINT READOUT
SEQUENCE NUMBER IDENTIFIER

NUMBER IDENTIFIER-STEERING = 'TG'

09.3.2.002.00*

DEPRESS 'PRGM' ON SMS TO DISPLAY FULL SMWDP. THEN DPB 'RDIS'

DEPRESS

PRGM DATA CONTROL SWITCH
R DIS SELECTOR PUSHBUTTON

DISPLAY TUBE SURFACE = TBD*

09.3.2.003.00*

DEPRESS 'STAT' ON SMS TO DISPLAY FULL STATUS THEN DPB 'LDIS'*

DEPRESS

STAT DATA CONTROL SWITCH
L DIS SELECTOR PUSHBUTTON

DISPLAY TUBE SURFACE = TBD*

09.3.2.004.00*

DEPRESS BOMB DLVY SELECT LIGHTED SWITCH TO 'AUTO'

DEPRESS

BOMB DELIVERY CONTROL = 'MAN'

BOMB DELIVERY CONTROL

BOMB DELIVERY CONTROL = 'AUTO'

OBJECTIVE: PERFORM BOMB RUN TRACKING

9.10

CRITICALITY: 2

DIFFICULTY: 3

INITIAL CONDITIONS: 1. Cruise configuration
 2. Weapon delivery run initiated

CONCURRENT TASKS: 1. OSO advise P/CP of required steering corrections.

INTERACTION TASKS: 1. Pilot monitor OSO steering corrections.

PERFORMANCE LIMITS: 1. X-hair lay = TBD (+ ft)
 2. Proper sequence
 3. Proper switch position

ENABLING OBJECTIVES:

1. Recall how to distinguish between the OAP 1 and OAP 2 radar returns and other returns in the vicinity.
2. Recall that steering or bomb release are not affected by activation of the OAP 1 or OAP 2 switches.
3. Recall that once OAP 1 or OAP 2 has been selected, changes to the X-hair position via the tracking handle does affect steering and alters the aircraft course.

ANCILLARY OBJECTIVES:

1. Recall how to reposition the X-hairs on the OAPs if the X-hairs do not overlay the OAPs.
2. Recall that if the target "breaks out" during the bomb run, the X-hairs can be positioned on the TGT rather than on OAP1 or OAP2 and a more accurate bomb drop accomplished.

OPERATOR: OSO

TASK ELEMENTS: 9.3.2.9
 9.3.2.10
 9.3.2.11
 9.3.2.12
 9.3.2.13

09.3.2.009.00*

DEPRESS 'OAP 1' ON NAV PANEL. THEN IDENTIFY OAP ON FLR

DEPRESS

OFFSET AIM POINT-1 CONTROL

OFFSET AIM POINT-1 CONTROL = ON*
AND CRT DISPLAY SURFACE = TBD

09.3.2.010.00*

DEPRESS 'OAP 2' ON NAV PANEL. THEN IDENTIFY OAP ON FLR

DEPRESS

OFFSET AIM POINT-2 CONTROL

OFFSET AIM POINT-2 CONTROL = ON*
AND CRT DISPLAY SURFACE = TBD

09.3.2.011.00*

ADVISE PILOT OF REQUIRED STEERING CORRECTIONS*

COMMUNICATE

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

DSO INTERPHONE SWITCH

PILOT ICS = ACKNOWLEDGED

09.3.2.012.00*

POSITION X-HAIRS TO COINCIDE WITH OAP USING TRACKING HANDLE*

POSITION

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

ENABLE SWITCH

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

09.3.2.013.00*

DEPRESS 'OAP 2' LIGHTED PUSHBUTTON ON NAV PANEL

DEPRESS

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

OFFSET AIM POINT-2 CONTROL

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

OBJECTIVE: SET FLR FOR GRAVITY STORE RELEASE

9.11

CRITICALITY: 2

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that when GND VEL has been selected, the radar ground map remains stable on the display with the targets and cursors remaining at the center of the display.
2. Recall that in GND VEL, the range sweep selections are 7.5/2.5, 15/5, 30/10, 90/30, 160/80 or 200/200. The first and second numbers represent range sweep and display scale (diameter) in miles, respectively.
3. Recall that operating the sector toggle switch on the tracking handle causes the FLR antenna sector width to be reduced to $\pm 10^\circ$ about the azimuth cursor. The forward position of the switch selects narrow scan. The off position selects the wide scan.

ANCILLARY OBJECTIVES:

1. Recall that the off position of the sector toggle switch on the tracking handle selects the wide scan of the FLR.

OPERATOR: OSO

TASK ELEMENTS: 9.3.2.14
9.3.2.15
9.3.2.16

09.3.2.014.00*

SET FLR RANGE SELECT ROTARY SWITCH TO DESIRED RANGE*

	CRT DISPLAY SURFACE	→=TBD*
SET	RANGE SWITCH-FLR	
	RANGE SWITCH-FLR	= TBD*

09.3.2.015.00*

SET FLR SELECT ROTARY SWITCH TO 'GND VEL'

	CRT DISPLAY SURFACE	→=EXPANDED
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL*
	AND CRT DISPLAY SURFACE	= EXPANDED

09.3.2.016.00*

SET NARROW SECTOR SCAN ON FLR WITH TRACKING HOLE PUSHBUTTON

	CRT DISPLAY SURFACE	→=NARROW SECT SCAN*
DEPRESS	SECTOR SWITCH	
	CRT DISPLAY SURFACE	= NARROW SECT SCAN

OBJECTIVE: PERFORM GRAVITY STORE RELEASE

9.12

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO perform gravity store release concurrently.
2. Notify other crewmembers of imminent shock.

PERFORMANCE LIMITS: 1. Proper sequence
2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that the TTD will indicate in seconds when approaching release.
2. Recall that the bomb bay door indicators flash twice a second when in a transient state.
3. Recall that the AWAY indicator illuminates when the weapon has separated from the rack.
4. Recall that if a second weapon is scheduled for release, the bomb legend on the VSD will go to a steady on state; otherwise, the legend will correspond to the steering mode selected previously.
5. Calculate shock arrival time based on the type of weapon, type of burst (air or ground), method of descent (free-fall, retarded), etc.

ANCILLARY OBJECTIVES:

1. Recall that the AFCS will be disengaged if the trigger switch on the stick is depressed to the second detent.
2. Recall that the steering symbol will blink three times a second when the A/V is outside of weapon release limits.

OPERATOR: P/CP

TASK ELEMENTS:

9.3.2.17	9.3.2.23
9.3.2.19	9.3.2.23.1
9.3.2.21	9.3.2.24
9.3.2.22	

09.3.2.017.00*

MONITOR TTG INDICATOR ON PILOT STORES PANEL

	TIME-TO-GO READOUT	> 0*
	AND STEERING TIME READOUT	> 0
MONITOR-VISUAL	TIME-TO-GO READOUT	
	STEERING TIME READOUT	
	TIME-TO-GO READOUT	= TBD*
	AND STEERING TIME READOUT	= TBD

09.3.2.019.00*

DEPRESS AFCS INTERR-DISC TRIG SW ON STICK TO FIRST DETENT

	CRT TUBE DISPLAY-PILOT	= TBD*
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	PILOT AFCS INTRPT-DISENG CNTRL	= FIRST DETENT*

09.3.2.021.00*

CHECK A-Y FLT CONDTIS ARE WITHIN SAFE WEAPON REL LIMITS

	TIME-TO-GO READOUT	> 0*
CHECK	STEERING COMMAND SYMBOL-PIL	
	STEERING COMMAND SYMBOL-PIL	= ON-STEADY

09.3.2.022.00*

OBSERVE SELECTED STORES BAY DOORS STATUS INDICATORS*

	BAY DOOR STATUS INDICATORS	= FLASHING*
	AND FWD BAY DOOR CONTROL	= FLASHING
OBSERVE	BAY DOOR STATUS INDICATORS	
	FWD BAY DOOR CONTROL	
	BAY DOOR STATUS INDICATORS	= 'FULL'*
	AND FWD BAY DOOR CONTROL	= FULL

09.3.2.023.00*

CHECK GRAVITY STORE RELEASE, USING VSD, PLT ST, ST DEL PANS

CHECK

09.3.2.023.01*

CHECK GRAVITY STORE RELEASE USING VSD AND PILOT STORES PANEL

CHECK

TIME-TO-GO READOUT = G*
AND STEERING MODE LEGEND-PILOT = 'BOMB'-FLASHING

TIME-TO-GO READOUT
STORES AWAY INDICATOR
STEERING MODE LEGEND-PILOT

STORES AWAY INDICATOR = OFF*
OR STEERING MODE LEGEND-PILOT = OFF

09.3.2.024.00*

NOTIFY P OSO DSO SHOCK ARRIVAL IS IMMINENT

COMMUNICATE

CLOCK-COPILOT = TBD*

PUSH-TO-TALK SWITCH-COPILOT

PILOT ICS = ACKNOWLEDGED
AND DSO ICS = ACKNOWLEDGED

OBJECTIVE: PERFORM GRAVITY STORE RELEASE

9.13

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. Pilot perform GRAVITY STORE RELEASE concurrently.
 2. Pilot informed to initiate insure planned bombing altitude.

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that when the full, part open, or door close position is selected, the switch flashes twice a second until the door reaches the selected position.
2. Recall that the REL SIG and AWAY indicators will light with the first release and pulse twice a second until a multiple release is complete.
3. Recall that the AWAY indicator illuminates when any scheduled weapon is physically separated from the rack.

ANCILLARY OBJECTIVES:

1. Recall that the REL SIG illuminates when any scheduled release signal is sent from the ACU to the store rack.

OPERATOR: OSO

TASK ELEMENTS: 9.3.2.18
 9.3.2.22
 9.3.2.23
 9.3.2.23.2

09.3.2.018.00*

ADVISE PILOT TO INITIATE-INSURE PLANNED BOMBING ALTITUDE

COMMUNICATE

CRT TUBE DISPLAY-PILOT

=TBD*

OSO INTERPHONE SWITCH

PILOT ICS

= ACKNOWLEDGED

09.3.2.022.00*

OBSERVE SELECTED STORES BAY DOORS STATUS INDICATORS*

OBSERVE

BAY DOOR STATUS INDICATORS
AND FWD BAY DOOR CONTROL

= FLASHING*
= FLASHING

BAY DOOR STATUS INDICATORS
FWD BAY DOOR CONTROL

BAY DOOR STATUS INDICATORS
AND FWD BAY DOOR CONTROL

= 'FULL'*
= FULL

09.3.2.023.00*

CHECK GRAVITY STORE RELEASE, USING VSD, PLT ST, SI DEL PANS

09.3.2.023.02*

CHECK GRAVITY STORE RELEASE USING STORES DELIVERY PANELS

CHECK

RELEASE SIGNAL ANNUNCIATOR
AND AWAY ANNUNCIATOR

= 'REL SIG'*
= 'AWAY'

RELEASE SIGNAL ANNUNCIATOR
AWAY ANNUNCIATOR

RELEASE SIGNAL ANNUNCIATOR
AND AWAY ANNUNCIATOR

= OFF*
= OFF

OBJECTIVE: BOMB RUN ALTITUDE CHANGE

9.14

CRITICALITY: 2

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration-supersonic

CONCURRENT TASKS: 1. Track with control stick and rudders to hold bomb run heading.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm Mach)
2. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Predict necessary pitch change to perform climb or descent and level-off at desired bombing altitude.
2. Track with control stick to maintain proper attitude for climb or descent and after level-off.
3. Adjust power level to maintain desired bomb run Mach number.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 9.3.2.20

09.3.2.020.00*

TRACK WITH CONTROL STICK TO ATTAIN DESIRED BOMBING ALTITUDE

CRT TUBE DISPLAY-PILOT = TBD

TRACK

PILOTS FLIGHT CONTROL STICK

AVVI-PILOT = TBD
AND PILOT AFCS INTRPT-DISENG CNTRL= RELEASED

MISSION SEGMENT 10

OBJECTIVE: PERFORM TF OPERATIONAL PROCEDURES

10.1

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper position

ENABLING OBJECTIVES:

1. Recall that the POWER/SET/TEST control knob of the radar altimeter does not incorporate the power on/off switching function. The power control function is included with the channel selector switch on the RADAR ALTM control panel.
2. Recall that when the TFR range control is set to E, the elevation scan for TF operation is selected.
3. Recall that with the ride control set to HARD, the maximum dive (push-over) command is such that the vertical g force imposed on the air vehicle in the TF mode is 0g absolute. The maximum climb (pull-up) command causes a +3g absolute maneuver regardless of ride selection.
4. Recall that the volume control for the aural command will cause a low frequency tone when the A/V is above the clearance plane setting and a high frequency tone when the A/V is below the setting.
5. Recall that when the clearance plane is set to 500, the TFR is in a special weather mode which employs additional video blanking and limits the area from which radar returns are processed.
6. Recall that when the TER FLW switchlight is WHITE the air vehicle will not be controlled automatically in response to pitch signals for the avionics.
7. Recall that actuation of the AFCS pitch interrupt switch provides terrain following fly-up interrupt as well as interruption of the AFCS pitch function.
8. Recall that with the ALT REF/TER FLW switch in the TER FLW position, the pitch steering commands on the VSD and SADI are generated in the TFR.

ENABLING OBJECTIVES: (continued)

2.

9. Recall that a CLIMB tone should be heard since the radar altimeter is set on 1000 and clearance plan at 500 with one of the TFR mode select switches set to TF.
10. Recall that release of the pitch interrupt establishes a new reference value at the release time and causes the AFCS to revert to the pitch operation prior to actuation.
11. Recall that when the TEST pushbutton is depressed, a pseudo 400-foot altitude signal is transmitted from the TFR data terminal to the TFR computer.
12. Recall that both the VSD and SADI steering commands should indicate an upward or climb command at the same time a CLIMB tone is heard.
13. Recall that when the trigger switch is released on the control stick from the first detent, the air vehicle will respond to the climb or fly-up signal.
14. Recall that when the TFR mode switch is changed from TF to STBY, power is still applied to the channel for warmup.
15. Recall that when the air vehicle is above 5,000 feet and the AUTO LTDN ENBL switch is set to ENBL, pseudo signals are sent to the TFR to permit automatic blind letdown.
16. Recall that when the AFCS is engaged with TER/FLW in the green, with the clearance plane set below the air vehicle's altitude, and with the AFCS pitch interrupt switch depressed, a dive tone should be heard on the headset.

ANCILLARY OBJECTIVES:

1. Recall that when the TFR range control is set to E, the range of the TFR on the horizontal axis is 10 NM.
2. Recall that the pitch interrupt switch allows manual control of the air vehicle.
3. Recall that if the clearance plane is set to 500, the LOW ALT FLY UP displays TEST if both TFR low altitude fly-up circuits are operable. If only one or neither are operable, the display will indicate FAIL.
4. Recall that the TFR fail lamps illuminate for one of the following reasons:
 - a. the channel is not ready for operation (STBY-WARMUP).
 - b. the channel has malfunctioned.
 - c. an input to the TFR has malfunctioned.

ANCILLARY OBJECTIVES: (continued)

3.

5. Recall that prior to engagement of TER FLW, the following switches must be set:

- a. ALT REF/TER FLW switches on both FLT DIR panels to TER FLW.
- b. Mode switches on both VSDs set to ADI.
- c. Clearance switch on TFR control panel set to the desired ground clearance.
- d. RIDE switch on TFR control panel set to the desired ride control.
- e. Both mode switches on TFR control panel set to TF position.
- f. AUTO LTDN ENBL switch on the RDR ALTM panel set to AUTO LTDN ENBL position.

6. Recall that the TER FLW mode can be disengaged by actuating the trigger switch on the control stick to the second detent or by setting both ALT RFF/TER FLW switches out of TER FLW position.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	10.1.1.1	10.1.1.21	10.1.1.51
	10.1.1.2	10.1.1.22	10.1.1.52
	10.1.1.3	10.1.1.23	10.1.1.53
	10.1.1.4	10.1.1.24	10.1.1.54
	10.1.1.5	10.1.1.25	10.1.1.55
	10.1.1.6	10.1.1.26	10.1.1.56
	10.1.1.7	10.1.1.27	10.1.1.57
	10.1.1.8	10.1.1.28	
	10.1.1.9	10.1.1.29	
	10.1.1.10	10.1.1.30	
	10.1.1.11	10.1.1.31	
	10.1.1.12	10.1.1.32	
	10.1.1.13	10.1.1.33	
	10.1.1.14	10.1.1.34	
	10.1.1.15	10.1.1.35	
	10.1.1.16	10.1.1.36	
	10.1.1.17	10.1.1.37	
	10.1.1.18	10.1.1.38	
	10.1.1.19	10.1.1.39	
	10.1.1.20	10.1.1.40	

10.1.1.001.00

SET POWER-SET-TEST CONTROL KNOB ON RADAR ALTIMETER TO '1000'*

SET

CHECKLIST = SEQUENCE
POWER-SET-TEST CONTROL KNOB
VARIABLE ALTITUDE INDEX MARKER= 1000*

10.1.1.002.00

SET TER RANGE ROTARY CONTROL TO 'E'*

SET

CHECKLIST = SEQUENCE
RANGE SWITCH-TF
RANGE SWITCH-TF = E

10.1.1.003.00

SET RIDE COAXIAL CONTROL TO 'HARD'

SET

CHECKLIST = SEQUENCE
RIDE SELECT SWITCH
RIDE SELECT SWITCH = HARD

10.1.1.004.00

SET VOL COAXIAL CONTROL TO DESIRED AURAL COMMAND VOLUME

SET

CHECKLIST = SEQUENCE
VOL ROTARY KNOB
VOL ROTARY KNOB = TBD

10.1.1.005.00

SET CLEARANCE ROTARY CONTROL TO '500'

SET

CHECKLIST = SEQUENCE
CLEARANCE SELECT SWITCH
CLEARANCE SELECT SWITCH = 500

10.1.1.006.00

OBSERVE 'TER FLW' SWITCHLIGHT ON AECS PANEL IS 'WHITE'

OBSERVE

CHECKLIST = SEQUENCE
COPILOTS TER FLWG PUSHBUTTON
COPILOTS TER FLWG PUSHBUTTON = 'TER FLW'-W

10.1.1.007.00*

DEPRESS AFCS PITCH INTERRUPT TRIGGER SW ON STICK TO 1ST DET

	TF INDICATOR SCREEN	= TBD
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	PILOT AFCS INTRPT-DISENG CNTRL= 1ST DETENT	

10.1.1.008.00*

DEPRESS AND HOLD TEST PB ON RDR ALTM CONTROL PANEL*

	PILOT AFCS INTRPT-DISENG CNTRL= 1ST DETENT	
DEPRESS	TEST PUSHBUTTON	
	LOW ALT FLYUP EM INDICATOR	= 'FAIL'

10.1.1.009.00*

SET ALT REF-TER FLW MODE SW ON FLT DIR PANELS TO 'TER FLW'

	CHECKLIST	= SEQUENCE
SET	ALT REF-TER FLW SW-PILOT	
	ALT REF-TER FLW SW-COPILOT	
	ALT REF-TER FLW SW-PILOT	= TER FLW
	AND ALT REF-TER FLW SW-COPILOT	= TER FLW

10.1.1.010.00*

SET R TER MODE SELECT SWITCH TO 'TF'

	CHECKLIST	= SEQUENCE
SET	TER MODE SWITCH-RIGHT	
	TER MODE SWITCH-RIGHT	= TF
	AND CO-PILOT ICS	= CLIMB TONE

10.1.1.011.00*

SCAN FOR PROPER TF VISUAL DISPLAY CONFIGURATIONS

	CHECKLIST	= SEQUENCE
MONITOR-VISUAL	STEERING COMMAND SYMBOL	
	VERTICAL STEERING POINTER	
	TER FLW WARNING LIGHT	
	STEERING COMMAND SYMBOL	= TBD
	AND TER FLW WARNING LIGHT	= 'TER FLW'

10.1.1.012.00*

DEPRESS L AND R CHANNEL PB TO CHECK TFR 'FAIL' LAMPS

CHECKLIST

= SEQUENCE

DEPRESS

FAIL INDICATOR-LEFT
FAIL INDICATOR-RIGHT

FAIL INDICATOR-LEFT = ON
AND FAIL INDICATOR-RIGHT = ON

10.1.1.013.00*

DEPRESS TO RELEASE AFCS PITCH INTERRUPT TRIGGER SW ON STICK

CHECKLIST

= SEQUENCE

DEPRESS

PILOT AFCS INTRPT-DISENG CNTRL

PILOT AFCS INTRPT-DISENG CNTRL = RELEASED
AND AIR-VEHICLE = FLY-UP

10.1.1.014.00*

DEPRESS AFCS PITCH INTERRUPT TRIGGER SW ON STICK TO 1ST DET

TF INDICATOR SCREEN

= TBD

DEPRESS

PILOT AFCS INTRPT-DISENG CNTRL

PILOT AFCS INTRPT-DISENG CNTRL = 1ST DETENT
AND AIR-VEHICLE = FLY-UP

10.1.1.015.00*

SET R TFR MODE SELECT SWITCH TO 'STR'

CHECKLIST

= SEQUENCE

SET

TFR MODE SWITCH-RIGHT

TFR MODE SWITCH-RIGHT

= STBY

10.1.1.016.00*

SET L TFR MODE SELECT SWITCH TO 'TF'

CHECKLIST

= SEQUENCE

SET

TFR MODE SWITCH-LEFT

TFR MODE SWITCH-LEFT

= TF

10.1.1.017.00*

DEPRESS AND HOLD TEST PB ON RDR ALIM CONTROL PANEL*

CHECKLIST

= SEQUENCE

DEPRESS

TEST PUSHBUTTON

LOW ALT FLYUP EM INDICATOR = 'FAIL'

10.1.1.018.00*

SCAN FOR PROPER TE VISUAL DISPLAY CONFIGURATIONS

MONITOR-VISUAL

CHECKLIST

= SEQUENCE

STEERING COMMAND SYMBOL
VERTICAL STEERING POINTER
TER FLW WARNING LIGHT

STEERING COMMAND SYMBOL
AND TER FLW WARNING LIGHT

= TBD
= 'TER FLW'

10.1.1.019.00*

DEPRESS TO RELEASE AFCS PITCH INTERRUPT TRIGGER SW ON STICK

DEPRESS

CHECKLIST

= SEQUENCE

PILOT AFCS INTRPT-DISENG CNTRL

PILOT AFCS INTRPT-DISENG CNTRL = RELEASED
AND AIR-VEHICLE = FLY-UP

10.1.1.020.00*

DEPRESS AFCS PITCH INTERRUPT TRIGGER SW ON STICK TO 1ST DET

DEPRESS

PILOT AFCS INTRPT-DISENG CNTRL

PILOT AFCS INTRPT-DISENG CNTRL = 1ST DETENT

10.1.1.021.00*

SET CLEARANCE ROTARY SWITCH ON RDR SET CONTROL TO '300'

SET

CHECKLIST

= SEQUENCE

CLEARANCE SELECT SWITCH

CLEARANCE SELECT SWITCH = 300

10.1.1.022.00*

DEPRESS AFCS 'TER FLW' SWITCHLIGHT TO ENGAGE AFCS

DEPRESS

CHECKLIST

= SEQUENCE

PILOTS TER FLWG PUSHBUTTON

PILOTS TER FLWG PUSHBUTTON = 'TER FLW'-G

10.1.1.023.00*

SCAN TE VISUAL & AURAL DISPLAYS FOR PROPER CONFIGURATIONS*

PILOTS TER FLWG PUSHBUTTON = 'TER FLW'-G

10.1.1.023.01*

SCAN FOR PROPER IE VISUAL DISPLAY CONFIGURATIONS

MONITOR-VISUAL

PILOTS TER FLWG PUSHBUTTON = 'TER FLW'-G

STEERING COMMAND SYMBOL
VERTICAL STEERING POINTER
TER FLW WARNING LIGHT

STEERING COMMAND SYMBOL = TRD
AND TER FLW WARNING LIGHT = 'TER FLW'

10.1.1.023.02*

SCAN FOR PROPER IE VISUAL DISPLAY CONFIGURATION

MONITOR-VISUAL

PILOTS TER FLWG PUSHBUTTON = 'TER FLW'-G

LOW ALT FLYUP EM INDICATOR

LOW ALT FLYUP EM INDICATOR = 'FAIL'

10.1.1.023.03*

MONITOR AUDIAL TONE FOR PROPER SIGNAL

MONITOR-AUDITORY

PILOTS TER FLWG PUSHBUTTON = 'TER FLW'-G

PILOT ICS
CO-PILOT ICS

PILOT ICS = DIVE TONE
AND CO-PILOT ICS = DIVE TONE

10.1.1.024.00*

DEPRESS TO RELEASE AFCS PITCH INTERRUPT TRIGGER SW ON STICK

LOW ALT FLYUP EM INDICATOR = 'FAIL'
AND CO-PILOT ICS = DIVE TONE

DEPRESS

PILOT AFCS INTRPT-DISENG CNTRL

PILOT AFCS INTRPT-DISENG CNTRL= RELEASED
AND AIR-VEHICLE = DIVE

10.1.1.025.00*

DEPRESS AFCS PITCH INTERRUPT TRIGGER SW ON STICK TO 1ST DET

PILOT AFCS INTRPT-DISENG CNTRL= RELEASED
AND AIR-VEHICLE = DIVE

DEPRESS

PILOT AFCS INTRPT-DISENG CNTRL

PILOT AFCS INTRPT-DISENG CNTRL= 1ST DETENT
AND AIR-VEHICLE =DIVE

10.1.1.026.00*

SET L TFR MODE SELECT SWITCH TO 'STBY'

	CHECKLIST	= SEQUENCE
SET	TFR MODE SWITCH-LEFT	
	TFR MODE SWITCH-LEFT	= STBY

10.1.1.027.00*

SET R TFR MODE SELECT SWITCH TO 'IE'

	TFR MODE SWITCH-LEFT	= STBY
SET	TFR MODE SWITCH-RIGHT	
	TFR MODE SWITCH-RIGHT	= TF

10.1.1.028.00*

SCAN IE VISUAL & AURAL DISPLAYS FOR PROPER CONFIGURATIONS*

	TFR MODE SWITCH-RIGHT	= TF
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10.1.1.028.01*

SCAN FOR PROPER IE VISUAL DISPLAY CONFIGURATIONS

	TFR MODE SWITCH-RIGHT	= TF
MONITOR-VISUAL	STEERING COMMAND SYMBOL	
	VERTICAL STEERING POINTER	
	TER FLW WARNING LIGHT	
	STEERING COMMAND SYMBOL	= TEO
	AND TER FLW WARNING LIGHT	= 'TER FLW'

10.1.1.028.02*

SCAN FOR PROPER IE VISUAL DISPLAY CONFIGURATION

	TFR MODE SWITCH-RIGHT	= TF
MONITOR-VISUAL	LOW ALT FLYUP EM INDICATOR	
	LOW ALT FLYUP EM INDICATOR	= 'FAIL'

10.1.1.028.03*

MONITOR AURAL TONE FOR PROPER SIGNAL

	TER MODE SWITCH-RIGHT	= TF
MONITOR-AUDITORY	PILOT ICS CO-PILOT ICS	
	PILOT ICS AND CO-PILOT ICS	= DIVE TONE = DIVE TONE

10.1.1.029.00*

DEPRESS TO RELEASE AFCS PITCH INTERRUPT TRIGGER SW ON STICK

	LOW ALT FLYUP EM INDICATOR AND CO-PILOT ICS	= 'FAIL' = DIVE TONE
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	PILOT AFCS INTRPT-DISENG CNTRL AND AIR-VEHICLE	= RELEASED = DIVE

10.1.1.030.00*

DEPRESS AFCS PITCH INTERRUPT TRIGGER SW ON STICK TO 1ST DET

	PILOT AFCS INTRPT-DISENG CNTRL AND AIR-VEHICLE	= RELEASED = DIVE
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	PILOT AFCS INTRPT-DISENG CNTRL AND AIR-VEHICLE	= 1ST DETENT = DIVE

10.1.1.031.00*

RELEASE TEST PUSHBUTTON ON BOB ALIM CONTROL PANEL

	AIR-VEHICLE	= DIVE
RELEASE	TEST PUSHBUTTON	
	LOW ALT FLYUP EM INDICATOR	= 'OFF'

10.1.1.032.00*

DEPRESS AFCS 'TER-FLW' SWITCHLIGHT TO DISENGAGE AFCS

	CHECKLIST	= SEQUENCE
DEPRESS	PILOTS TER FLWG PUSHBUTTON	
	PILOTS TER FLWG PUSHBUTTON	= 'TER FLW'-W

10.1.1.033.00*

SET CLEARANCE ROTARY CONTROL TO '1000'

	CHECKLIST	= SEQUENCE
SET	CLEARANCE SELECT SWITCH	
	CLEARANCE SELECT SWITCH	= 1000

10.1.1.034.00*

SET AUTO LTON LEVER-LOCKED TOGGLE SWITCH TO 'ENBL'

	CHECKLIST	= SEQUENCE
SET	AUTO LTON ENBL SWITCH	
	AUTO LTON ENBL SWITCH	= ENBL

10.1.1.035.00*

DEPRESS AFCS PITCH INTERRUPT TRIGGER SW ON STICK TO 1ST DET

	TF INDICATOR SCREEN	= TBD
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	PILOT AFCS INTRPT-DISENG CNTRL	= 1ST DETENT

10.1.1.036.00*

SET R TFR MODE SELECT SWITCH TO 'STBY'

	CHECKLIST	= SEQUENCE
SET	TFR MODE SWITCH-RIGHT	
	TFR MODE SWITCH-RIGHT	= STBY

10.1.1.037.00*

SET L TFR MODE SELECT SWITCH TO 'TF'

	CHECKLIST	= SEQUENCE
SET	TFR MODE SWITCH-LEFT	
	TFR MODE SWITCH-LEFT	= TF

10.1.1.038.00*

DEPRESS AND HOLD TEST PB ON RDR ALTM CONTROL PANEL

	TFR MODE SWITCH-LEFT	= TF
DEPRESS	TEST PUSHBUTTON	
	LOW ALT FLYUP EM INDICATOR	= 'FAIL'

10.1.1.039.00*

MONITOR TE VISUAL & AURAL DISPLAYS FOR PROPER CONFIGURATIONS*

LOW ALT FLYUP EM INDICATOR = 'FAIL'

10.1.1.039.01*

SCAN FOR PROPER TE VISUAL DISPLAY CONFIGURATIONS

LOW ALT FLYUP EM INDICATOR = 'FAIL'

MONITOR-VISUAL

STEERING COMMAND SYMBOL
VERTICAL STEERING POINTER
TER FLW WARNING LIGHT

STEERING COMMAND SYMBOL = -8
AND TER FLW WARNING LIGHT = 'TER FLW'

10.1.1.039.02*

SCAN FOR PROPER TE VISUAL DISPLAY CONFIGURATIONS

LOW ALT FLYUP EM INDICATOR = 'FAIL'

MONITOR-VISUAL

FAIL INDICATOR-LEFT
FAIL INDICATOR-RIGHT

FAIL INDICATOR-LEFT = OFF
AND FAIL INDICATOR-RIGHT = OFF

10.1.1.039.03*

MONITOR AURAL TONE FOR PROPER SIGNAL

LOW ALT FLYUP EM INDICATOR = 'FAIL'

MONITOR-AUDITORY

PILOT ICS
CO-PILOT ICS

PILOT ICS = DIVE TONE
AND CO-PILOT ICS = DIVE TONE

10.1.1.040.00*

DEPRESS TO RELEASE AFCS PITCH INTERRUPT TRIGGER SW ON STICK

LOW ALT FLYUP EM INDICATOR = 'FAIL'
AND CO-PILOT ICS = DIVE TONE

DEPRESS

PILOT AFCS INTRPT-DISENG CNTRL

PILOT AFCS INTRPT-DISENG CNTRL = RELEASED
AND AIR-VEHICLE = DIVE

10.1.1.051.00*

SET L TFR MODE SELECT SWITCH TO 'STB'

SET

CHECKLIST

= SEQUENCE

TFR MODE SWITCH-LEFT

TFR MODE SWITCH-LEFT

= STBY

10.1.1.052.00*

SET L TFR MODE SELECT SWITCH TO 'TF'

SET

CHECKLIST

= SEQUENCE

TFR MODE SWITCH-LEFT

TFR MODE SWITCH-LEFT
AND FAIL INDICATOR-LEFT

= TF
= ON

10.1.1.053.00*

SET L TFR MODE SELECT SWITCH TO 'STB'

SET

CHECKLIST

= SEQUENCE

TFR MODE SWITCH-LEFT

TFR MODE SWITCH-LEFT

= STBY

10.1.1.054.00*

SET R TFR MODE SELECT SWITCH TO 'TF'

SET

TFR MODE SWITCH-LEFT

= STBY

TFR MODE SWITCH-RIGHT

TFR MODE SWITCH-RIGHT

= TF

10.1.1.055.00*

SET L TFR MODE SELECT SWITCH TO 'TF'

SET

CHECKLIST

= SEQUENCE

TFR MODE SWITCH-LEFT

TFR MODE SWITCH-LEFT
AND FAIL INDICATOR-LEFT

= TF
= ON

10.1.1.056.00*

MONITOR TF RADAR CONTROL 'FAIL' ANNUNCIATOR LIGHTS

TFR MODE SWITCH-LEFT = TF
AND TFR MODE SWITCH-RIGHT = TF

MONITOR-VISUAL

FAIL INDICATOR-LEFT
FAIL INDICATOR-RIGHT

FAIL INDICATOR-LEFT = OFF
AND FAIL INDICATOR-RIGHT = OFF

10.1.1.057.00*

DEPRESS TO RELEASE AFCS PITCH INTERRUPT TRIGGER SW ON STICK*

FAIL INDICATOR-LEFT = OFF
AND FAIL INDICATOR-RIGHT = OFF

DEPRESS

PILOT AFCS INTRPT-DISENG CNTRL

PILOT AFCS INTRPT-DISENG CNTRL= RELEASED

OBJECTIVE: EXECUTE TF OPERATION CHECKS

10.2

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise Configuration

CONCURRENT TASKS: 1. Track with control stick and rudders to return to original course.
2. Coordinate control stick and throttles to maintain altitude and airspeed.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm Mach)
2. Altitude - TBD (\pm ft)
3. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Predict necessary lateral control stick motion to achieve required rate of roll.
2. Predict necessary lateral control stick motion to return to level flight.
3. Recall that depressing trigger switch on stick to first detent interrupts AFCS and permits A/V to be maneuvered.
4. Recall proper configuration of TF aural and visual displays.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	10.1.1.41	10.1.1.42.1	10.1.1.47.1
	10.1.1.42	10.1.1.42.2	10.1.1.47.2
	10.1.1.43	10.1.1.42.3	10.1.1.47.3
	10.1.1.44		
	10.1.1.45		
	10.1.1.46		
	10.1.1.47		
	10.1.1.48		
	10.1.1.49		
	10.1.1.50		

10.1.1.041.00*

TRACK WITH FLT CONTROLS TO INITIATE BANK AT > 2 DEG PER SEC*

PILOT AFCS INTRPT-DISENG CNTRL= RELEASED
AND AIR-VEHICLE = DIVE

TRACK

PILOTS FLIGHT CONTROL STICK
PILOTS RUDDER PEDALS

ROLL SCALE-PILOT > 45

10.1.1.042.00*

MONITOR IF VISUAL & AURAL DISPLAYS FOR PROPER CONFIGURATION*

ROLL SCALE-PILOT > 45

10.1.1.042.01*

SCAN FOR PROPER IF VISUAL DISPLAY CONFIGURATIONS

ROLL SCALE-PILOT > 45

MONITOR-VISUAL

STEERING COMMAND SYMBOL
VERTICAL STEERING POINTER

STEERING COMMAND SYMBOL = CLIMB
AND VERTICAL STEERING POINTER = CLIMB

10.1.1.042.02*

SCAN FOR PROPER IF VISUAL DISPLAY CONFIGURATIONS

ROLL SCALE-PILOT > 45

MONITOR-VISUAL

FAIL INDICATOR-LEFT
FAIL INDICATOR-RIGHT
TFR TURN G-LIMIT CAUTION LT

FAIL INDICATOR-LEFT = ON
AND TFR TURN G-LIMIT CAUTION LT = TFR TURN G-LIMI

10.1.1.042.03*

MONITOR AURAL TONE FOR PROPER SIGNAL

ROLL SCALE-PILOT > 45

MONITOR-AUDITORY

PILOT ICS
CO-PILOT ICS

PILOT ICS = CLIMB TONE
AND CO-PILOT ICS = CLIMB TONE

10.1.1.043.00*

DEPRESS AFCS PITCH INTERRUPT TRIGGER SW ON STICK TO 1ST DET

	TF INDICATOR SCREEN	= TBD
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	PILOT AFCS INTRPT-DISENG CNTRL= 1ST DETENT	
	AND AIR-VEHICLE	=FLY-UP

10.1.1.044.00*

TRACK WITH FLT CONTROLS TO RETURN A-V TO WINGS LEVEL FLIGHT

	AIR-VEHICLE	=FLY-UP
TRACK	PILOTS FLIGHT CONTROL STICK	
	PILOTS RUDDER PEDALS	
	ROLL SCALE-PILOT	= 0

10.1.1.045.00*

MONITOR VISUAL DISPLAYS FOR PROPER CONFIGURATION*

	ROLL SCALE-PILOT	= 0
MONITOR-VISUAL	FAIL INDICATOR-LEFT	
	FAIL INDICATOR-RIGHT	
	TFR TURN G-LIMIT CAUTION LT	
	FAIL INDICATOR-LEFT	= ON
	AND TFR TURN G-LIMIT CAUTION LT	= OFF

10.1.1.046.00*

TRACK WITH FLT CONTROLS TO INITIATE BANK AT > 2 DEG PER SEC*

	FAIL INDICATOR-LEFT	= ON
	AND TFR TURN G-LIMIT CAUTION LT	= OFF
TRACK	PILOTS FLIGHT CONTROL STICK	
	PILOTS RUDDER PEDALS	
	ROLL SCALE-PILOT	> 45

10.1.1.047.00*

MONITOR IF VISUAL & AURAL DISPLAYS FOR PROPER CONFIGURATION*

	ROLL SCALE-PILOT	> 45
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10.1.1.047.01*

SCAN FOR PROPER TF VISUAL DISPLAY CONFIGURATIONS

	ROLL SCALE-PILOT	> 45
MONITOR-VISUAL	STEERING COMMAND SYMBOL VERTICAL STEERING POINTER	
	STEERING COMMAND SYMBOL AND VERTICAL STEERING POINTER	= CLIMB = CLIMB

10.1.1.047.02*

SCAN FOR PROPER TF VISUAL DISPLAY CONFIGURATIONS

	ROLL SCALE-PILOT	> 45
MONITOR-VISUAL	FAIL INDICATOR-LEFT FAIL INDICATOR-RIGHT TFR TURN G-LIMIT CAUTION LT	
	FAIL INDICATOR-LEFT AND TFR TURN G-LIMIT CAUTION LT	= ON = TFR TURN G-LIMIT

10.1.1.047.03*

MONITOR AURAL TONE FOR PROPER SIGNAL

	ROLL SCALE-PILOT	> 45
MONITOR-AUDITORY	PILOT ICS CO-PILOT ICS	
	PILOT ICS AND CO-PILOT ICS	= CLIMB TONE = CLIMB TONE

10.1.1.048.00*

DEPRESS AFCS PITCH INTERRUPT TRIGGER SW ON STICK TO 1ST DET

	TF INDICATOR SCREEN	= 160
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	PILOT AFCS INTRPT-DISENG CNTRL AND AIR-VEHICLE	= 1ST DETENT = FLY-UP

10.1.1.049.00*

TRACK WITH FLI CONTROLS TO RETURN A-V TO WINGS LEVEL FLIGHT

	AIR-VEHICLE	= FLY-UP
TRACK	PILOTS FLIGHT CONTROL STICK PILOTS RUDDER PEDALS	
	ROLL SCALE-PILOT	= 0

10.1.1.050.00*

MONITOR VISUAL DISPLAYS FOR PROPER CONFIGURATION

ROLL SCALE-PILOT = 0

MONITOR-VISUAL

FAIL INDICATOR-LEFT
FAIL INDICATOR-RIGHT
TFR TURN G-LIMIT CAUTION LT

FAIL INDICATOR-LEFT = ON
AND TFR TURN G-LIMIT CAUTION LT = OFF

OBJECTIVE: COMPLETE PRE-DESCENT TO LOW LEVEL

10.3

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

1. P/CP set FLT DIR Switches to NAV.
2. P/CP set FLT DIR Panel Switches to TER FLW.
3. P/CP set IR pod control to WV.

PERFORMANCE LIMITS: 1. Switch in proper position

ENABLING OBJECTIVES:

1. Recall that with the FLR mode switch in XMIT the system is energized completely both transmitting and receiving.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 10.1.2.1

10.1.2.001.00*

SET FLR FUNCTION SWITCH TO 'XMIT'*

SET

CHECKLIST

= SEQUENCE

MODE SWITCH-RADAR SET-2

MODE SWITCH-RADAR SET-2

= XMIT

OPERATOR: COMPLETE PRE-DESCENT TO LOW LEVEL

10.4

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO sets FLR function switch to XMIT

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that with the FLT DIR mode switch in NAV, the steering commands on the VSD and SADI are referenced to the heading and course selected by the OSO.
2. Recall that with the ALT REF/TER FLW switch in the TER FLW position, the pitch steering commands on the VSD and SADI are generated in the TFR.
3. Recall that with the IR pod control in VV, pod extension is commanded.

ANCILLARY OBJECTIVES:

1. Recall that in VV, cage mode command steering is to the flight vector reference line.
2. Recall that in VV, OSO steering is denied.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	10.1.2.2	10.1.2.3
	10.1.2.2.1	10.1.2.4
	10.1.2.2.2.	10.1.2.5

10.1.2.002.00*

SET BOTH FLT DIR MODE SELECT SWITCHES TO 'NAV'*

CHECKLIST

= SEQUENCE

10.1.2.002.01*

SET FLT DIR SWS TO 'NAV' AND MONITOR VSD, SADI & HSI*

CHECKLIST

= SEQUENCE

SET

FLT DIR MODE SWITCH-PILOT
FLT DIR MODE SWITCH-COPILOT

FLT DIR MODE SWITCH-PILOT = NAV
AND STEERING COMMAND SYMBOL = TBD

10.1.2.002.02*

SET FLT DIR SWS TO 'NAV' AND MONITOR VSD, SADI & HSI

CHECKLIST

= SEQUENCE

SET

FLT DIR MODE SWITCH-PILOT
FLT DIR MODE SWITCH-COPILOT

COURSE DEVIATION BAR-PILOT = TBD
AND VERTICAL STEERING POINTER = TBD

10.1.2.003.00*

SET BOTH FLT DIR PANEL TOGGLE SWITCHES TO 'TER FLW'*

CHECKLIST

= SEQUENCE

SET

ALT REF-TER FLW SW-PILOT
ALT REF-TER FLW SW-COPILOT

ALT REF-TER FLW SWITCH = TER FLW
AND HORIZONTAL STEERING POINTER = TBD

10.1.2.004.00*

CHECK RDR ALIM POWER-SET-TEST KNOB IS SET TO '1000'*

CHECKLIST

= SEQUENCE

CHECK

POWER-SET-TEST CONTROL KNOB

VARIABLE ALTITUDE INDEX MARKER= 1000

10.1.2.005.00*

SET IR POD CONTROL TO 'VV'

CHECKLIST

= SEQUENCE

SET

IR POD CONTROL

IR POD CONTROL

= VV

= VV

OBJECTIVE: PERFORM PRE-DESCENT TO LOW LEVEL CHECKS 10.5

CRITICALITY: 1 DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
 2. Proper switch position

ENABLING OBJECTIVES:

1. Recall that the display switch in the normal position provides full display capability.
2. Recall that the SYM BRT controls all symbology simultaneously from zero to maximum.
3. Recall that CONTRST controls the video gain from zero to maximum.
4. Recall that BRT controls the roster brightness from zero to 0.50 ± 0.15 maximum intensity.

ANCILLARY OBJECTIVES:

1. Recall that with the display switch in the declutter position, the pitch scale is removed.
2. Recall that with the mode switch in ADI and the display switch in declutter, the pitch scale and other TBD symbols are removed.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	10.1.2.7	10.1.2.10
	10.1.2.8	10.1.2.11
	10.1.2.8.1	10.1.2.11.1
	10.1.2.8.2	10.1.2.11.2
	10.1.2.9	

10.1.2.007.00*

MONITOR BOTH VSD DISPLAYS

VSD-PILOT = TBD*
AND VSD-COPILOT = TBD

MONITOR-VISUAL

VSD-PILOT
VSD-COPILOT

VSD-PILOT = TBD*
AND VSD-COPILOT = TBD

10.1.2.008.00*

ADJUST BRIGHTNESS, CONTRAST, CLUTTER & DECLUTTER KNOBS

10.1.2.008.01*

ADJUST SYMBOL BRIGHTNESS AND CONTRAST ON VSD

ADJUST CRT TUBE DISPLAYS = TBD

 SYMBOL BRIGHTNESS CONTROL
 SENSOR CONTRAST CONTROL

 SYMBOL BRIGHTNESS CONTROL = TBD
AND CRT TUBE DISPLAYS = TBD

10.1.2.008.02*

ADJUST DECLUTTER AND SENSOR BRIGHTNESS CONTROLS ON VSD

ADJUST CRT TUBE DISPLAYS = TBD

 DISPLAY SWITCH
 SENSOR BRIGHTNESS CONTROL

 DISPLAY SWITCH = TBD
AND CRT TUBE DISPLAYS = TBD

10.1.2.009.00*

SET MODE SELECTOR SWITCH ON VSD TO 'IR'

SET CHECKLIST = SEQUENCE

 MODE SELECT SWITCH-PILOT
 MODE SELECT SWITCH-COPILOT

 MODE SELECT SWITCH-PILOT = IR
AND MODE SELECT SWITCH-COPILOT = IR

10.1.2.010.00*

MONITOR BOTH VSD DISPLAYS

VSD-PILOT
AND VSD-COPILOT

=TBD*
=TBD

MONITOR-VISUAL

VSD-PILOT
VSD-COPILOT

VSD-PILOT
AND VSD-COPILOT

= TBD*
= TBD

10.1.2.011.00*

ADJUST BRIGHTNESS, CONTRAST, CLUTTER & DECLUTTER KNOBS

10.1.2.011.01*

ADJUST SYMBOL BRIGHTNESS AND CONTRAST ON VSD

CRT TUBE DISPLAYS

=TBD

ADJUST

SYMBOL BRIGHTNESS CONTROL
SENSOR CONTRAST CONTROL

SYMBOL BRIGHTNESS CONTROL
AND CRT TUBE DISPLAYS

= TBD
= TBD

10.1.2.011.02*

ADJUST DECLUTTER AND SENSOR BRIGHTNESS CONTROLS ON VSD

CRT TUBE DISPLAYS

=TBD

ADJUST

DISPLAY SWITCH
SENSOR BRIGHTNESS CONTROL

DISPLAY SWITCH
AND CRT TUBE DISPLAYS

= TBD
= TBD

OBJECTIVE: INITIATE DESCENT

10.6

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. Power level for cruise - TBD

CONCURRENT TASKS: 1. Track with control stick and rudders to hold desired heading.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Heading - TBD (\pm degrees)
 2. Airspeed - TBD (\pm Kts)

ENABLING OBJECTIVES:

1. Predict power level setting for descent.
2. Predict necessary pitch change for descent.
3. Coordinate control stick and throttles for smooth transition from level flight to desired descent attitude.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 10.2.1.1
 10.2.1.2
 10.2.1.3

10.2.1.001.00*

POSITION THROTTLES TO TBD POWER LEVEL*

POSITION

CRT TUBE DISPLAY-PILOT = TBD

PRIMARY THROTTLE LEVERS-PI

POWER LEVEL INDICATOR = TBD

10.2.1.002.00*

PUSH CONTROL STICK FORWARD

PUSH

PITCH SCALE-PILOT = TBD*

PILOTS FLIGHT CONTROL STICK

PITCH SCALE-PILOT = TBD*

10.2.1.003.00*

ADJUST PITCH TRIM

ADJUST

PROPRIOCEPTION = ABOVE NORMAL*

PLT TRIM SW (ON CONTR STICK)

PROPRIOCEPTION = REDUCED*

OBJECTIVE: PERFORM DESCENT

10.7

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. Power level for descent - TBD

CONCURRENT TASKS: 1. Calculate fuel distribution to maintain optimum cg position.
 2. Track with control stick to maintain or achieve
 desired heading.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Vertical velocity - TBD (\pm ft/min)
 2. Airspeed - TBD (\pm Kts)
 3. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Track with control stick to maintain desired rate of descent.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 10.2.1.4
 10.2.1.5
 10.2.1.6
 10.2.1.7

10.2.1.004.00*

ADJUST THROTTLES AND/OR SPEEDBRAKE AS REQUIRED

ADJUST

ALT RATE FIXED SCALE-PILOT = TBD*

PRIMARY THROTTLE LEVERS-PI

ALT RATE FIXED SCALE-PILOT = TBD*

10.2.1.005.00*

MONITOR HSI FOR HEADING DEVIATIONS

MONITOR-VISUAL

ALT RATE FIXED SCALE-PILOT = TBD

NAV BEARING POINTER-PILOT

NAV BEARING POINTER-COPILOT

NAV BEARING POINTER-PILOT = TBD*

AND NAV BEARING POINTER-COPILOT = TBD

10.2.1.006.00*

TRACK WITH FLI CONTROLS TO CORRECT HEADING ERROR

TRACK

NAV BEARING POINTER-PILOT = TBD

PILOTS FLIGHT CONTROL STICK

PILOTS RUDDER PEDALS

COMMAND HEADING SYMBOL-PILOT = TBD*

10.2.1.007.00*

ADJUST WING SWEEP CONTROL TO SET ANGLE OF WINGS*

ADJUST

WING SWEEP POSITION INDICATOR = TBD*

PILOTS WING SWEEP HANDLE

WING SWEEP POSITION INDICATOR = TBD*

10.8

DIFFICULTY: 1

TASK ELEMENTS: 10.2.2.1
10.2.2.2
10.2.2.3

10.2.2.001.00

MONITOR PRESENT POSITION PARAMETERS DURING LETDOWN*

10.2.2.001.01

MONITOR PRESENT POSITION PARAMETERS DURING LETDOWN

MONITOR-VISUAL

SEQUENCE NUMBER
SEQUENCE NUMBER IDENTIFIER
PRESENT POSITION ALTITUDE

SEQUENCE NUMBER = TBD
AND PRESENT POSITION ALTITUDE = TBD

10.2.2.001.02

MONITOR PRESENT POSITION PARAMETERS DURING LETDOWN

MONITOR-VISUAL

ATTITUDE DIRECTOR INDICATOR
BEARING-DISTANCE-HEADING IND
AIRSPEED-ALTITUDE INDICATOR

ATTITUDE DIRECTOR INDICATOR = TBD
AND AIRSPEED-ALTITUDE INDICATOR = TBD

10.2.2.001.03

MONITOR PRESENT POSITION PARAMETERS DURING LETDOWN

MONITOR-VISUAL

GROUND TRACK READOUT
GROUND SPEED READOUT
TRUE HEADING READOUT

GROUND TRACK READOUT = TBD
AND TRUE HEADING READOUT = TBD

10.2.2.002.00

MONITOR STEERING BAR ON HSI

COURSE DEVIATION BAR-PILOT = TBD*
AND COURSE DEVIATION BAR-COPILOT = TBD

MONITOR-VISUAL

COURSE DEVIATION BAR-PILOT
COURSE DEVIATION BAR-COPILOT

COURSE DEVIATION BAR-PILOT = TBD*
AND COURSE DEVIATION BAR-COPILOT = TBD

10.2.2.003.00

TRACK WITH FLT CONTROLS, AS REQUIRED, TO MANEUVER A-V

TRACK

COURSE DEVIATION BAR-PILOT ~TBD

PILOTS FLIGHT CONTROL STICK
PILOTS RUDDER PEDALS

COURSE DEVIATION BAR-PILOT = TBD*

OBJECTIVE: TURN TO INITIAL CHECKPOINT

10.9

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that the sequence number identifier may be one of the following: CP, OAP, TG, TM, ITS, IOF, DTS, DOF or TRZ.
2. Recall that the sequence number defines the TTD and DIST data on the display.
3. Recall that the present position altitude readout displays either barometric altitude or absolute altitude from the radar altimeter.
4. Recall that the ground track of the air vehicle is dependent upon the navigation display mode selected. There are four modes: N_v (Navigation Mode), 1(INS1), 2(INS2) and DR (Dead Reckon).
5. Recall that the present position ground speed readout is dependent upon the navigation display mode selected similar to 4. above.
6. Recall that the present position true heading readout is dependent upon the navigation display mode selected similar to 4. above.
7. Recall that the selection of the bearing and heading sources for the BDHI is made at the front station.
8. Recall that the #1 needle is the relative bearing indicator for the TACAN. The #2 needle is either the bearing to a NAV checkpoint as selected by the ACU, or a bearing to a UHF/ADF station.
9. Recall that the heading can be either magnetic or grid depending upon the navigation mode selected.
10. Recall that the mileage window readout displays the mileage to the selected TACAN station or the NAV turn point.
11. Recall that the CAS/TAS indicator is used to display ground speed, ballistic parameters, navigational parameters, etc. The information is supplied from whichever Air Data System has been selected at the pilot's station.

12. Interpret acceptability of present position parameters.

ANCILLARY OBJECTIVES:

1. Recall that the solid line on the indicator's sphere represents the real world horizon. The scale at the bottom indicates the aircraft's roll attitude in degrees.
2. Recall that the compass card in the BDHI can be driven either by the inertial platform (NAV) or by the gyro stabilization system (GSS).

OPERATOR: OSO

TASK ELEMENTS: 10.2.2.1
10.2.2.1.1
10.2.2.1.2
10.2.2.1.3

10.2.2.001.00*

MONITOR PRESENT POSITION PARAMETERS DURING LEIDOWN*

10.2.2.001.01*

MONITOR PRESENT POSITION PARAMETERS DURING LEIDOWN

MONITOR-VISUAL

SEQUENCE NUMBER
SEQUENCE NUMBER IDENTIFIER
PRESENT POSITION ALTITUDE

SEQUENCE NUMBER = TBD
AND PRESENT POSITION ALTITUDE = TBD

10.2.2.001.02*

MONITOR PRESENT POSITION PARAMETERS DURING LEIDOWN

MONITOR-VISUAL

ATTITUDE DIRECTOR INDICATOR
BEARING-DISTANCE-HEADING IND
AIRSPEED-ALTITUDE INDICATOR

ATTITUDE DIRECTOR INDICATOR = TBD
AND AIRSPEED-ALTITUDE INDICATOR = TBD

10.2.2.001.03*

MONITOR PRESENT POSITION PARAMETERS DURING LEIDOWN

MONITOR-VISUAL

GROUND TRACK READOUT
GROUND SPEED READOUT
TRUE HEADING READOUT

GROUND TRACK READOUT = TBD
AND TRUE HEADING READOUT = TBD

OBJECTIVE: PERFORM PRE-LEVEL-OFF AT TF ALTITUDE

10.10

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS: 1. Interpret terrain characteristics from TFR display.

INTERACTION TASKS: 1. OSO monitor-X-check altitude indicators.

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that the moving pointer of the radar altimeter indicates current radar altitude from zero to 5,000 feet AGL.
2. Recall that when the AUTO LTDN ENBL switch is on and the air vehicle is higher than 5000 feet above the terrain, pseudo signals are provided to the TFR to permit automatic blind letdowns.
3. Recall that below 5000 feet, letdown continues to the clearance plane selected on the TFR.
4. Recall that the TFR indicator provides a direct-viewing vertical scan when in TF mode.
5. Recall that the present position altitude readout displays absolute altitude from the radar altimeter.
6. Recall that the fixed aircraft symbol on the VSD should coincide with the horizontal bar of the steering command symbol.
7. Recall that when the command altitude value is in view, the command marker is superimposed and tracks that value. When it coincides with the altitude scale index line, the air vehicle is at the commanded altitude.
8. Recall that the dive command change will show up as a downward deflection of the steering command symbol.

ANCILLARY OBJECTIVES:

1. Recall that unreliable operation of the radar altimeter causes the pointer to go behind the masked portion of the indicator dial as well as the appearance of the OFF flag.

OPERATOR: P/CP

TASK ELEMENTS: 10.2.3.1
10.2.3.2
10.2.3.3

10.2.3.001.00*

MONITOR RADAR ALTIMETER LOCK-ON AT 5000 FEET ALTITUDE

MONITOR-VISUAL

RADAR ALTIMETER INDICATOR = 5000*

RADAR ALTIMETER INDICATOR
OFF FLAG
AUTO LTDR ENBL SWITCH

OFF FLAG = NO FLAG*
AND STEERING COMMAND SYMBOL-PIL = -10

10.2.3.002.00*

MONITOR TER DISPLAY FOR APPROPRIATE TERRAIN CHARACTERISTICS

MONITOR-VISUAL

RADAR ALTIMETER INDICATOR < 5000

TF INDICATOR SCREEN

TF INDICATOR SCREEN = TBD*

10.2.3.003.00*

MONITOR-X-CHECK ALTITUDE INDICATORS

MONITOR-VISUAL

CHECKLIST = SEQUENCE

RADAR ALTIMETER INDICATOR
SENSITIVE ALT SCALE MKR-PIL
STANDBY ALTIMETER

RADAR ALTIMETER INDICATOR = TBD*
AND STANDBY ALTIMETER = TBD

OBJECTIVE:

LEVEL-OFF AT TF ALTITUDE

10.11

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P level off at 1000' AGL

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that the present position altitude readout on the navigation panel displays system barometric altitude or absolute altitude depending on position of the H_{SL}/H_R switch.

ANCILLARY OBJECTIVES:

1. Recall that the IKB nine option switches correspond to lines 1 through 9 of the CRT format.
2. Recall that the selection of a FUNT switch on the IKB such as NAV allows sub-functions of a logic tree to be presented on the IKB.
3. Recall that 9 lines of data with 28 characters per line can be presented on the IKB CRT.

OPERATOR: OSO

TASK ELEMENTS: 10.2.3.4

10.2.3.004.00*

MONITOR-X-CHECK ALTITUDE INDICATORS

	CHECKLIST	= SEQUENCE
MONITOR-VISUAL	PRESENT POSITION ALTITUDE	
	PRESENT POSITION ALTITUDE	= TBD

OBJECTIVE: LEVEL-OFF AT TF ALTITUDE

10.12

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Power level for descent

CONCURRENT TASKS: 1. Track with control stick and rudders to hold
desired heading
2. Calculate fuel distribution to maintain optimum c.g.

INTERACTION TASKS: OSO check mission time

PERFORMANCE LIMITS: 1. Airspeed - TBD (+ kts)
2. Altitude - TBD (+ ft)
3. Heading - TBD (+ degrees)

ENABLING OBJECTIVES:

1. Calculate power level setting for level-off
2. Calculate altitude lead to initiate pitch attitude change
3. Predict necessary pitch change for level-off
4. Coordinate control stick and throttles to achieve level-off
5. Track with control stick to maintain level-off altitude
6. Adjust power level to maintain cruise airspeed or Mach number

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 10.2.3.5
10.2.3.7

10.2.3.005.00*

TRACK WITH CONTROL STICK TO LEVEL-OFF AT 1000 FEET AGL

	AIR-VEHICLE	> 1000*
TRACK	PILOTS FLIGHT CONTROL STICK	
	SENSITIVE ALT SCALE MKR-PIL	= TBO*
	AND AIR-VEHICLE	= 1000

10.2.3.007.00*

MONITOR VSD AIRSPEED READOUT FOR SPEED DEVIATION*

	AIR-VEHICLE	= 1000
MONITOR-VISUAL	AIRSPEED DISPLAY-PILOT	
	AIRSPEED DISPLAY-PILOT	= TBO

OBJECTIVE: EXECUTE ALTITUDE CALIBRATION

10.13

CRITICALITY: 2

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE TASKS:

1. X-hair lay TBD (\pm ft)
2. Proper sequence
3. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that when GND VEL has been selected, the radar ground map remains stable on the display with the targets and cursors remaining at the center of the display.
2. Recall that in GND VEL, the range sweep selections are 7.5/2.5, 15/5, 20/10, 90/30, 160/80 or 200/200. The first and second numbers represent range sweep and display scale (diameter) in miles, respectively.
3. Recall that squeezing the enable switch permits all tracking handle functions except changing the sector width.
4. Recall how to identify the calibration point from other radar returns in the vicinity.
5. Recall that prior to an altitude calibration, the ELEV/ Δ ALT switch will be lit to indicate the terrain elevation of the calibration point.
6. Recall that if the ACPT/REJ toggle switch is set to REJ, the ELEV/ Δ ALT indicators will blank until the start of the turn to the next planned calibration destination.
7. Recall how to evaluate the Δ ALT readout for acceptability.

ANCILLARY OBJECTIVES:

1. Recall that if the correct ground speed is used the X-hairs will not drift from the scheduled elevation calibration point.

ANCILLARY OBJECTIVES: (continued.)

2.

2. Recall that the terrain elevation will be shown on the elevation/ Δ altitude indicator as a numerical readout.

OPERATOR: OSO

<u>TASK ELEMENTS:</u>	9.2.2.2	10.2.4.1	11.5.3.1
	9.2.2.3	10.2.4.2	11.5.3.2
	9.2.2.4	10.2.4.3	11.5.3.3
	9.2.2.5	10.2.4.4	11.5.3.4
	9.2.2.6	10.2.4.5	11.5.3.5
	9.2.2.9	10.2.4.6	11.5.3.6
	9.2.2.10	10.2.4.7	11.5.3.7
	9.2.2.11	10.2.4.8	11.5.3.8
	9.2.2.12	10.2.4.9	11.5.3.9
	9.2.2.13	10.2.4.10	11.5.3.10
		10.2.4.11	

09.2.2.002.00*

SET ROTARY MODE SWITCH ON FLR CONTROL PANEL TO 'GND VEL'*

	CRT DISPLAY SURFACE	= HI-ALTIT CALIB.
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL

09.2.2.003.00*

DEPRESS TH 'ENBL' SW TO COMMAND FLR ANT TO MAX DNWD ANGLE*

	ANTENNA TILT INDICATOR	= 0
DEPRESS	ENABLE SWITCH	
	ANTENNA TILT INDICATOR	= -30
	AND CRT DISPLAY SURFACE	= READY

09.2.2.004.00*

DEPRESS TH 'ENBL' SW TO POSITION RNG CURS ON NEAREST RETURN

	RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= POSITIONED*
	AND CRT DISPLAY SURFACE	= OBSERVED

09.2.2.005.00*

DETERMINE GRD RTN 'COINCIDES' WITH SCHEDULED ELEV CALIB PT*

	STEERING DISTANCE READOUT	= TBD*
DETERMINE	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*
	AND RANGE CURSORS	= POSITIONED

09.2.2.006.00*

DEPRESS TH 'ENBL' SWITCH TO POSN RNG CURSOR FOR FINE ADJUSTM

	CRT DISPLAY SURFACE	= TBD
	AND RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= COINCIDENT*

09.2.2.007.00*

NOTE HEADING DEVIATION OF FLIGHT PATH, CALIBRATION POINT

	RANGE CURSORS	= TBD
OBSERVE	RANGE CURSORS	
	SYSTEM MALFUNCTION INDICATOR	= TBD*

09.2.2.009.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTI CALIBRATION*

DEPRESS ALTITUDE-ELEVATION SELECTOR = 'ELEV'-FLASHING
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'*

09.2.2.010.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

DEPRESS AIR-VEHICLE = DOF
AND STEERING TIME READOUT = 0
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

09.2.2.011.00*

EVALUATE DALT READOUT VALUE ON 'ALI CALBR' DIGITAL INDICATOR*

EVALUATE ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY
ELEVATION-DELTA ALTITUDE IND
ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

09.2.2.012.00*

SET 'ACPT-REJ' TOGGLE SWITCH TO 'ACPT'

SET ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE
ALTITUDE CALIBRATION SWITCH
IN UPDT INDICATOR = 'IN UPDT'

09.2.2.013.00*

NOTE KALMAN FILTER ACCEPTANCE OF ALTITUDE UPDATE

OBSERVE IN UPDT INDICATOR = OFF*
AND ELEVATION-DELTA ALTITUDE IND = OFF
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = OFF

10.2.4.001.00*

SET ROTARY MODE SWITCH ON FLR CONTROL PANEL TO 'GND VEL'

	CRT DISPLAY SURFACE	= LOW-ALTIT CALIB
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL

10.2.4.002.00*

DEPRESS TH 'ENBL' SW TO COMMAND FLR ANT TO MAX DNWD ANGLE

	ANTENNA TILT INDICATOR	= 0
DEPRESS	ENABLE SWITCH	
	ANTENNA TILT INDICATOR	= -30
	AND CRT DISPLAY SURFACE	= READY

10.2.4.003.00*

DEPRESS TH 'ENBL' SW TO POSITION RNG CURS ON NEAREST RETURN*

	RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= POSITIONED*
	AND CRT DISPLAY SURFACE	= OBSERVED

10.2.4.004.00*

DETERMINE GRD RIN 'COINCIDES' WITH SCHEDULED ELEV CALIB PT*

	STEERING DISTANCE READOUT	= TBD*
DETERMINE	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*
	AND RANGE CURSORS	= POSITIONED

10.2.4.005.00*

DEPRESS TH 'ENBL' SWITCH TO POSN RNG CURSOR FOR FINE ADJUST

	CRT DISPLAY SURFACE	= TED
	AND RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= COINCIDENT*

10.2.4.006.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTI CALIBRATION*

	ALTITUDE-ELEVATION SELECTOR	= 'ELEV'-FLASHING
DEPRESS	ALTITUDE-ELEVATION SELECTOR	
	ALTITUDE-ELEVATION SELECTOR	= 'DALT'*

10.2.4.009.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

AIR-VEHICLE = 00F
AND STEERING TIME READOUT = 0

DEPRESS

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

10.2.4.010.00*

EVALUATE DALT READOUT VALUE ON 'ALT CALBR' DIGITAL INDICATOR*

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY

EVALUATE

ELEVATION-DELTA ALTITUDE IND

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

10.2.4.011.00*

SET 'ACPT-BEJ' TOGGLE SWITCH TO 'ACPT'

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

SET

ALTITUDE CALIBRATION SWITCH

IN UPDT INDICATOR = 'IN UPDT'

11.5.3.001.00*

SET ROTARY MODE SWITCH ON FLR CONTROL PANEL TO 'GND VEL'*

	CRT DISPLAY SURFACE	= LOW-ALTIT CALIB.
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL

11.5.3.002.00*

DEPRESS TH 'ENBL' SW TO COMMAND FLR ANT TO MAX DNWD ANGLE*

	ANTENNA TILT INDICATOR	= 0
DEPRESS	ENABLE SWITCH	
	ANTENNA TILT INDICATOR	= -30
	AND CRT DISPLAY SURFACE	= TBD

11.5.3.003.00*

DEPRESS TH 'ENBL' SW TO POSITION RNG CURS ON NEAREST RETURN

	RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= POSITIONED*
	AND CRT DISPLAY SURFACE	= TBD

11.5.3.004.00*

DETERMINE GRD RIN 'COINCIDES' WITH SCHEDULED ELEV CALIB PT*

	STEERING DISTANCE READOUT	= TBD*
CHECK	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*
	AND RANGE CURSORS	= POSITIONED

11.5.3.005.00*

DEPRESS TH 'ENBL' SWITCH TO POSN RNG CURSOR FOR FINE ADJUSTM

	CRT DISPLAY SURFACE	= TBD
	AND RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= COINCIDENT*

11.5.3.006.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTI CALIBRATION*

DEPRESS

ALTITUDE-ELEVATION SELECTOR = 'ELEV'-FLASHING
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'*

11.5.3.007.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

DEPRESS

AIR-VEHICLE = DOF
AND STEERING TIME READOUT = 0
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

11.5.3.008.00*

EVALUATE DALT READOUT VALUE ON 'ALT CALBR' DIGITAL INDICATOR*

EVALUATE

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY
ELEVATION-DELTA ALTITUDE IND
ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

11.5.3.009.00*

SET 'ACPT-REJ' TOGGLE SWITCH TO 'ACPT'

SET

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE
ALTITUDE CALIBRATION SWITCH
IN UPDT INDICATOR = 'IN UPDT'

11.5.3.010.00*

NOTE KALMAN FILTER ACCEPTANCE OF ALTITUDE UPDATE

CHECK

IN UPDT INDICATOR = OFF*
AND ELEVATION-DELTA ALTITUDE IND = OFF
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = OFF

MISSION SEGMENT 11

OBJECTIVE: SELECT TF MODES FOR ATF

11.1

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that the display switch in the normal position provides full display capability.
2. Recall that the PITCH TRIM rotary control is provided to permit adjusting the horizon line for various conditions of speed and/or A/V configurations. The horizon can be moved 15+5 degrees upward or downward.
3. Recall that the SYM BRT controls all symbology simultaneously from zero to maximum.
4. Recall that CONTRST controls the video gain from zero to maximum.
5. Recall that BRT controls the raster brightness from zero to 0.50+0.15 maximum intensity.
6. Recall that the clearance plane switch provides a specific altitude in the TF mode.

ANCILLARY OBJECTIVES:

1. Recall that with the display switch in the declutter position, the pitch scale is removed.
2. Recall that with the mode switch in ADI and the display switch in declutter, the pitch scale and other TBD symbols are removed.

OPERATOR: P/CP

TASK ELEMENTS: 11.1.1.1 11.1.1.4
 11.1.1.2 11.1.1.5
 11.1.1.3 11.1.1.6

11.1.1.001.00*

SET MODE ON VSD TO FLIR

11.1.1.001.01*

SET MODE ON VSD TO FLIR

	CHECKLIST	= SEQUENCE
SET	MODE SELECT SWITCH-PILOT	
	MODE SELECT SWITCH-PILOT	= FLIR*
	AND CRT TUBE DISPLAY-PILOT	= TBD

11.1.1.001.02*

SET MODE ON VSD TO FLIR

	CHECKLIST	= SEQ
SET	MODE SELECT SWITCH-COPILOT	
	MODE SELECT SWITCH-COPILOT	= FLIR*
	AND CRT TUBE DISPLAY-COPILOT	= TBD

11.1.1.002.00*

SET VSD DISPLAY SWITCH TO 'DCLTR'*

	CRT TUBE DISPLAY-PILOT	= TPD*
SET	DISPLAY SWITCH-PILOT	
	CRT TUBE DISPLAY-PILOT	= TBD*

11.1.1.003.00*

ADJUST PITCH TRIM ROTARY CONTROL AS NECESSARY

	CRT TUBE DISPLAY-PILOT	= TBD*
ADJUST	PITCH TRIM CONTROL-PILOT	
	CRT TUBE DISPLAY-PILOT	= TBD*

11.1.1.004.00*

ADJUST SYM BRT ROTARY CONTROL AS NECESSARY

	CRT TUBE DISPLAY-PILOT	= TBD*
ADJUST	SYMBOL BRIGHTNESS CONT-PILOT	
	CRT TUBE DISPLAY-PILOT	= TBD*

11.1.1.005.00*

ADJUST SENSOR CONTRAST AND BRIGHTNESS CONTROLS AS NECESSARY

ADJUST

CRT TUBE DISPLAY-PILOT

= TRD*

SENSOR CONTRAST CONT-PILOT
SENSOR BRT CONTROL-PILOT

CRT TUBE DISPLAY-PILOT

= TRD*

11.1.1.006.00*

SET CLEARANCE SWITCH ON TEB PANEL TO DESIRED CLEARANCE PLANE*

SET

CHECKLIST

= SEQUENCE

CLEARANCE SELECT SWITCH

CLEARANCE SELECT SWITCH

= TRD*

OBJECTIVE: COMPLETE AFCS & TFR CHECKS

11.2

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequences
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that when a transfer of command is made by depressing TAKE COMD, the AFCS will revert to the basic ENGAGE mode if AFCS is engaged, except for TER FLW and AUTO THROT modes.
2. Recall that by depressing ENGAGE, the basic AFCS mode of flight path hold in the pitch axis and attitude hold in the roll axis is engaged.
3. Recall that if both TFR mode switches are positioned to TF, the second channel selected automatically goes to a standby condition.
4. Recall that when the TFR mode switch is set to SIT, the presentation on the indicator is a sector PPI (azimuth scan) display.

ANCILLARY OBJECTIVES:

1. Recall that with ENGAGE in the green, control stick steering is provided by flight control stick movement exceeding 0.25 inch.
2. Recall that the ENGAGE mode may be deactivated only by depressing the AFCS disengage switch on the flight control stick.
3. Recall that prior to engagement of TER FLW, the following switches must be set:
 - a. ALT RFF/TER FLW switches on both P's and CP's FLR DIR panels set to TER FLW.
 - b. Mode switches on both P's & CP's VSD set to ADI.
 - c. CL (clearance) switch on TFR control panel set to the desired ground clearance.
 - d. RIDE switch on TFR control panel set to the desired ride control.
 - e. Both MODE switches on TFR control panel set to TF position.
 - f. AUTO LTDN ENBL switch on the RDR ALTM panel set to AUTO LTDN ENBL position.

ANCILLARY OBJECTIVES: (Continued)

4. Recall that the TER FLW mode can be disengaged by actuating the trigger switch on the central stick to the second detent or by setting both ALT REF/TER FLW switches out of TER FLW position.
5. Recall that if both TFR mode switches are set to TF, the second channel will take over automatically if the operating channel fails.

OPERATOR: P/CP

TASK ELEMENTS:

11.1.2.1
11.1.2.5
11.1.2.6

11.1.2.001.00*

ENGAGE AECS AND SELECT 'TER FLW' MODE*

	CHECKLIST	= SEQUENCE
PUSH	PILOTS TAKE COMMAND PUSHBUTTON	
	PILOTS ENGAGE PUSHBUTTON	
	PILOTS TER FLWG PUSHBUTTON	
	PILOTS ENGAGE PUSHBUTTON	= 'ENGAGE'-G*
	AND AVVI-PILOT	= TBD

11.1.2.005.00*

VERIFY THAT (1) TER CHANNEL MODE SW IS POSITIONED TO 'TE'*

	CHECKLIST	= SEQUENCE
CHECK	TER MODE SWITCH-RIGHT	
	TER MODE SWITCH-RIGHT	= TF*

11.1.2.006.00*

SET TER MODE SWITCH ON (1) TE CHANNEL TO 'SIT' (SITUATION)

	CHECKLIST	= SEQUENCE
SET	TER MODE SWITCH-LEFT	
	TER MODE SWITCH-LEFT	= SIT*

OBJECTIVE: LOW LEVEL CRUISE (ATF)

11.3

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS: 1. Verify that air vehicle maintains proper clearance plane
2. Verify that air vehicle continues to fly desired heading

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD(\pm Mach)
2. Clearance plane - TBD (\pm ft)
3. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Predict power level setting to maintain ATF cruise airspeed.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 11.1.2.2
11.1.2.3
11.1.2.4

11.1.2.002.00*

MONITOR RADAR ALTIMETER

	AVVI-PILOT	= TBD*
MONITOR-VISUAL	RADAR ALTIMETER INDICATOR	
	AIR-VEHICLE	= TBD*

11.1.2.003.00*

ADJUST THROTTLES TO OBTAIN REQUIRED IE AIRSPEED*

	AMI-PILOT	= TBD
ADJUST	PRIMARY THROTTLE LEVERS-PI	
	AMI-PILOT	= TBD
	AND PILOTS AUTO THROT PUSHBUTTON	= 'AUTO THROT'-W

11.1.2.004.00*

ADJUST WING SWEEP LEVER TO TBD DEG FOR AIE PENETRATION

	CHECKLIST	= SEQUENCE
ADJUST	PILOTS WING SWEEP HANDLE	
	WING SWEEP POSITION INDICATOR	= TBD*

OBJECTIVE: MONITOR TF MODES FOR ATF

11.4

CRITICALITY: 3

DIFFICULTY: 3

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P/CP advised of potential terrain obstacles
2. P/CP acknowledge

PERFORMANCE LIMITS: 1. Proper terrain characteristics interpretation.

ENABLING OBJECTIVES:

1. Recall how to interpret radar ground returns on the FLR CRT.
2. Recall that the present position true heading readout is dependent upon the navigation display mode selected.
3. Recall that the selection of the bearing and heading sources for the BDHI is made at the front station.
4. Recall that the #1 needle is the relative bearing indicator for the TACAN. The #2 needle is either the bearing to a NAV checkpoint as selected by the ACU, or a bearing to a UHF/ADF station.
5. Recall that the heading can be either magnetic or grid depending upon the navigation mode selected.
6. Recall that the mileage window readout displays the mileage to the selected TACAN station or the NAV turn point.
7. Recall that the CAS/TAS indicator is used to display ground speed, ballistic parameters, navigational parameters, etc. The information is supplied from whichever Air Data System has been selected at the pilot's station.
8. Recall that the range of the FLR exceeds the capability of the TFR and pilots should be forewarned well in advance of potential obstacles.

ANCILLARY OBJECTIVES:

1. Recall that the solid line on the indicator's sphere represents the real world horizon. The scale at the bottom indicates the aircraft's roll attitude in degrees.
2. Recall that the compass card in the BDHI can be driven either by the inertial platform (NAV) or by the gyro stabilization system (GSS).

OPERATOR: OSO

TASK ELEMENTS: 11.1.3.1
11.1.3.2
11.1.3.3

11.1.3.001.00*

MONITOR FLR DISPLAY AS REQD FOR POTENTIAL OBSTACLE RETURNS*

	CRT DISPLAY SURFACE	= TBD*
MONITOR-VISUAL	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*

11.1.3.002.00*

MONITOR FLT INSTRUMENTS (ADI, HDHI, AIRSPEED-ALT INDICATOR)

	ATTITUDE DIRECTOR INDICATOR	= TBD*
	AND AIRSPEED-ALTITUDE INDICATOR	= TBD
MONITOR-VISUAL	ATTITUDE DIRECTOR INDICATOR	
	BEARING-DISTANCE-HEADING IND	
	AIRSPEED-ALTITUDE INDICATOR	
	ATTITUDE DIRECTOR INDICATOR	= TBD*
	AND AIRSPEED-ALTITUDE INDICATOR	= TBD

11.1.3.003.00*

ADVISE PILOT(S) OF POTENTIALLY HAZARDOUS TERRAIN OBSTACLES*

	CRT DISPLAY SURFACE	= TBD*
COMMUNICATE	DSG ICS	
	PILOT ICS	= ACKNOWLEDGED
	AND CO-PILOT ICS	= ACKNOWLEDGED

OBJECTIVE: MONITOR DISPLAYS FOR ATF

11.5

CRITICALITY: 3

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration
2. ATF

CONCURRENT TASKS: 1. Interpret VSD, IR display to verify clearance plane and flight path free of obstacles

PERFORMANCE LIMITS: 1. Airspeed - TBD (+ Mach or + kts)
2. Altitude - TBD (+ ft)
3. Clearance plane - TBD (+ ft)

ENABLING OBJECTIVES:

1. Recall that the flight path angle and angle rate is referenced to the horizon.
2. Recall that the radar altimeter indicates increments of 10-feet from zero to 200 feet, 50-foot increments from 200 to 2000 feet and 500-foot increments from 2000 to 5000 feet.
3. Recall that the steering command symbol on the VSD provides pitch and course steering. Proper steering is when the steering symbol is centered over the short center bar of the fixed aircraft symbol.
4. Recall that the heading marker on the HSI reflects the value set by the heading set knob and indicates the relative difference between it and the current heading of the air vehicle at the top of the instrument.
5. Recall how the oncoming terrain should look when viewed through the thermal flash blindness window. The clearance plane should be constant except when the air vehicle is deviating over or around obstacles.

ANCILLARY OBJECTIVES:

1. Recall that the low altitude warning lights illuminates whenever the air vehicle descends to or below the preselected altitude.
2. Recall that the TFR fail lamps indicate that the channel has malfunctioned or that an input to the TFR has malfunctioned.

OPERATOR: P/CP

TASK ELEMENTS: 11.1.3.4 11.1.3.7 11.1.3.10
 11.1.3.5 11.1.3.8
 11.1.3.6 11.1.3.9

11.1.3.004.00*

MONITOR AIRSPEED-MACH INDICATOR

MONITOR-VISUAL

AMI-PILOT
AMI-COPILOT

AMI-PILOT
AND AMI-COPILOT

= TBD*
= TBD

11.1.3.005.00*

MONITOR COMPUTED FLIGHT PATH ON VSD SCOPE

MONITOR-VISUAL

FLIGHT PATH ANGLE SYMBOL
FLIGHT PATH ANGLE RATE

FLIGHT PATH ANGLE SYMBOL
AND FLIGHT PATH ANGLE RATE

= TBD*
= TBD

11.1.3.006.00*

MONITOR RADAR ALTIMETER

MONITOR-VISUAL

RADAR ALTIMETER INDICATOR

RADAR ALTIMETER INDICATOR

= TBD*

11.1.3.007.00*

MONITOR A/E PITCH STEERING ON VSD

MONITOR-VISUAL

STEERING COMMAND SYMBOL-PIL
STEERING COMMAND SYMBOL-COP

STEERING COMMAND SYMBOL-PIL
AND STEERING COMMAND SYMBOL-COP

= TBD*
= TBD

11.1.3.008.00*

MONITOR COURSE STEERING ON THE VSD AND/OR HSI

MONITOR-VISUAL

HEADING READOUT
HEADING MARKER

HEADING READOUT
AND HEADING MARKER

= TBD*
= TBD

11.1.3.009.00*

MONITOR TFR FAIL INDICATORS

MONITOR-VISUAL

TFR FAIL INDICATORS

TFR FAIL INDICATORS

= OFF*

11.1.3.010.00*

MONITOR IR ON VSD-OR VISUAL CONTACT THROUGH TFB WINDOW

MONITOR-VISUAL

CRT TUBE DISPLAYS*

FLASHBLINDNESS WINDOW-LEFT

FLASHBLINDNESS WINDOW-RIGHT

CRT TUBE DISPLAYS = TBD*
AND FLASHBLINDNESS WINDOW-RIGHT = TBD

OBJECTIVE: CHANGE TO MTF

11.6

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. ATF

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that all engaged modes will be disengaged when the trigger is depressed to the second detent.
2. Recall that all green mode lights except TAKE COMD will switch to white when the trigger on the control stick is depressed to the second detent.
3. Recall that manual trim becomes operative when the AFCS is disengaged.

ANCILLARY OBJECTIVES:

1. Recall that the AFCS will be interrupted in pitch when the trigger switch is depressed to the first detent.

OPERATOR: P/CP

TASK ELEMENT: 11.2.1.1

11.2.1.001.00*

DEPRESS AUTOPILOT DISENGAGE TRIGGER SWITCH ON CONTROL SLICK

DEPRESS

PILOT AFCS INTRPT-DISENG CNTRL

PILOT AFCS INTRPT-DISENG CNTRL= SECOND DETENT
AND PILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-W

OBJECTIVE: LOW LEVEL CRUISE (MTF)

11.7

CRITICALITY: 3

DIFFICULTY: 3

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm Mach)
 2. Clearance plane - TBD (\pm ft)
 3. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Adjust power level to maintain .85 mach number.
2. Coordinate control stick and throttles to maintain desired clearance plane.
3. Coordinate control stick and rudders to hold desired heading.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 11.2.1.2
 11.2.1.3
 11.2.1.4

11.2.1.002.00*

TRACK PITCH STEERING COMMAND ON VSD WITH CONTROL STICK

	STEERING COMMAND SYMBOL-PIL	= T80*
TRACK	PILOTS FLIGHT CONTROL STICK	
	STEERING COMMAND SYMBOL-PIL	= 180*

11.2.1.003.00*

POSITION THROTTLES AS REQUIRED TO TRACK MACH .85

	AMI-PILOT	= .85
ADJUST	PRIMARY THROTTLE LEVERS-PI	
	AMI-PILOT	= .85

11.2.1.004.00*

TRACK STEERING AZ COMMAND ON VSD WITH FLIGHT CONTROLS

	STEERING COMMAND SYMBOL-PIL	= T80*
TRACK	PILOTS FLIGHT CONTROL STICK	
	PILOTS RUDDER PEDALS	
	STEERING COMMAND SYMBOL-PIL	= T80*

OBJECTIVE: MONITOR DISPLAYS FOR MTF

11.8

CRITICALITY: 3

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration
2. MTF

CONCURRENT TASKS:

INTERACTION TASKS: 1. Close crew coordination for safe TF

PERFORMANCE LIMITS: 1. Airspeed - TBD (+ Kts)
2. Clearance plane - TBD (+ ft)
3. Heading - TBD (+ degrees)

ENABLING OBJECTIVES:

1. Recall that the steering command symbol should be superimposed over the fixed aircraft symbol on the VSD.
2. Recall that the heading marker on the HSI reflects the value set by the heading set knob and indicates the relative difference between it and the current heading of the air vehicle at the top of the instrument.
3. Recall that the TFR shows a sector PPI (Azimuth Scan) display when in SIT or GM modes and a vertical scan in the TF mode.
4. Recall that the E-display has a 10 NM range displayed on the horizontal axis.
5. Recall how the on-coming terrain should look when viewed through the thermal flash blindness window. The clearance plane should be constant except when the air vehicle is deviating over or around obstacles.
6. Recall that the radar altimeter indicates increments of 10-feet from zero to 200 feet, 50-foot increments from 200 to 2000 feet and 500-foot increments from 2000 to 5000 feet.

ANCILLARY OBJECTIVES:

1. Recall that the low altitude warning light illuminates whenever the air vehicle descends to or below the preselected altitude.
2. Recall that the TFR fail lamps indicate that the channel has malfunctioned or that an input to the TFR has malfunctioned.

OPERATOR: P/CP

TASK ELEMENTS: 11.2.2.1
11.2.2.2
11.2.2.3
11.2.2.4
11.2.2.5
11.2.2.6

11.2.2.001.00*

MONITOR AIRSPEED-MACH DISPLAY*

MONITOR-VISUAL

AMI-PILOT
AMI-COPILOT

AMI-PILOT
AND AMI-COPILOT

= TBD*

= TBD

11.2.2.002.00*

MONITOR TF PITCH STEERING ON VSD DISPLAY

MONITOR-VISUAL

STEERING COMMAND SYMBOL-PIL

STEERING COMMAND SYMBOL-PIL = TBD*

11.2.2.003.00*

MONITOR HSI COMMAND HEADING MKR AGAINST NAV BEARING MONITOR

MONITOR-VISUAL

HEADING MARKER-PILOT
HEADING MARKER-COPILOT

HEADING MARKER-PILOT = TBD*
AND HEADING MARKER-COPILOT = TBD

11.2.2.004.00*

MONITOR TFR SCOPE OR VISUALLY THROUGH FLASHBLINDNESS WINDOW*

MONITOR-VISUAL

TF INDICATOR SCREEN
FLASHBLINDNESS WINDOW-LEFT
FLASHBLINDNESS WINDOW-RIGHT

TF INDICATOR SCREEN = TBD*
AND FLASHBLINDNESS WINDOW-RIGHT = TBD

11.2.2.005.00*

MONITOR RADAR ALTIMETER

MONITOR-VISUAL

RADAR ALTIMETER INDICATOR

RADAR ALTIMETER INDICATOR = TBD*
AND RADAR ALTITUDE DISPLAY-COPILOT = TBD

11.2.2.006.00*

MONITOR TFR FAIL INDICATORS

MONITOR-VISUAL

TFR FAIL INDICATORS

TFR FAIL INDICATORS = OFF*

OBJECTIVE: DETERMINE LATERAL COURSE DEVIATION

11.9

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS : 1. Cruise configuration
2. TF

CONCURRENT TASKS:

INTERACTION TASKS: 1. DSO communicate that threat exists
2. OSO OK course change
3. Close crew coordination essential

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Interpret TFR presentation to determine that proposed flight path is clear of obstacles and additional threats.
2. Recall that the TFR shows a sector PPI (Azimuth Scan) display when in SIT or GM modes and a vertical scan in the TF mode.
3. Recall that the E-display has a 10 NM range displayed on the horizontal axis.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 11.3.1.1
11.3.1.2
11.3.1.3

11.3.1.001.00*

COMMUNICATE WITH DSO-DSO ON THREAT SITUATION*

COMMUNICATE

DSO ICS

= THREAT EXISTS

ICS

PILOT ICS
AND DSO ICS

= CHANGE COURSE
= AGREED

11.3.1.002.00*

VERIFY CONDITIONS SUITABLE FOR MANUAL LATERAL CONTROL

CHECK

DSO ICS
AND DSO ICS

= THREAT EXISTS*
= OK TO CHG COURSE

TF INDICATOR SCREEN
CRT DISPLAY SURFACE

TF INDICATOR SCREEN
AND CRT DISPLAY SURFACE

= CHECKED*
= CHECKED

11.3.1.003.00*

DETERMINE BEST PATH AROUND THREAT

CHECK

DSO ICS
AND DSO ICS

= THREAT EXISTS*
= OK TO CHG COURSE

TF INDICATOR SCREEN
CRT DISPLAY SURFACE

TF INDICATOR SCREEN
AND CRT DISPLAY SURFACE

= TBD*
= TBD

OBJECTIVE: DETERMINE LATERAL COURSE DEVIATION

11.10

CRITICALITY: 3

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration
2. TF

CONCURRENT TASKS

INTERACTION TASKS: 1. DSO communicate that threat exists
2. OSO OK course change and communicate w/P/CP
3. Close crew coordination essential

PERFORMANCE LIMITS: 1. Accurate course-change determination

ENABLING OBJECTIVES:

1. Interpret the FLR presentation to determine that the proposed flight path is clear of obstacles and additional threats.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 11.3.1.1
11.3.1.2
11.3.1.3

11.3.1.001.00*

COMMUNICATE WITH DSO-DSO ON THREAT SITUATION*

COMMUNICATE	DSO ICS	= THREAT EXISTS
	ICS	
	PILOT ICS AND DSO ICS	= CHANGE COURSE = AGREED

11.3.1.002.00*

VERIFY CONDITIONS SUITABLE FOR MANUAL LATERAL CONTROL

CHECK	DSO ICS	= THREAT EXISTS*
	AND DSO ICS	= OK TO CHG COURSE
	TF INDICATOR SCREEN CRT DISPLAY SURFACE	
	TF INDICATOR SCREEN AND CRT DISPLAY SURFACE	= CHECKED* = CHECKED

11.3.1.003.00*

DETERMINE BEST PATH AROUND THREAT

CHECK	DSO ICS	= THREAT EXISTS*
	AND DSO ICS	= OK TO CHG COURSE
	TF INDICATOR SCREEN CRT DISPLAY SURFACE	
	TF INDICATOR SCREEN AND CRT DISPLAY SURFACE	= TBD* = TBD

OBJECTIVE: MANEUVER A/V AT LOW LEVEL

11.11

CRITICALITY: 1

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm Mach)
2. Clearance plane - TBD (\pm ft)
3. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Adjust power level to maintain .85 mach while maneuvering.
2. Coordinate control stick and throttles to maintain desired clearance plane.
3. Predict necessary bank angle to make lateral maneuver.
4. Predict heading lead so as to roll out on desired course.
5. Coordinate control stick and rudders for roll into and roll out of turns.
6. Track with control stick and rudders to hold desired heading.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 11.3.1.4
11.3.1.9

11.3.1.004.00*

TRACK WITH FLT CONTROLS & THROTTLES TO INITIATE DEVIATION

TF INDICATOR SCREEN = TBD*
AND CRT DISPLAY SURFACE = TBD

TRACK

PILOTS FLIGHT CONTROL STICK
PILOTS RUDDER PEDALS
PRIMARY THROTTLE LEVERS-PI

VSD-PILOT = TBD*
AND FLASHBLINDNESS WINDOW-LEFT = TBD

11.3.1.009.00*

TRACK WITH FLT CONTROLS & THROTTLES TO RETURN A-V TO TRACK*

TRACK

PILOTS FLIGHT CONTROL STICK
PILOTS RUDDER PEDALS
PRIMARY THROTTLE LEVERS-PI

VSD-PILOT = TBD*
AND FLASHBLINDNESS WINDOW-LEFT = TBD

OBJECTIVE: MONITOR LATERAL COURSE DEVIATION

11.12

CRITICALITY: 3

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration
2. TF course deviation

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. AMI within acceptable tolerance
2. TFR scope within acceptable tolerance
3. Course deviation acceptable

ENABLING OBJECTIVES:

1. Interpret the VSD, IR presentation to verify that clearance plane and flight path free of obstructions.
2. Recall how the on-coming terrain should look when viewed through the thermal flash blindness window. The clearance plane should be constant except when the air vehicle is deviating over or around obstacles.
3. Recall that the TFR shows a sector PPI (Azimuth Scan) display when in SIT or GM modes and a vertical scan in the TF mode.
4. Recall that the E-display has a 10 NM range displayed in the horizontal axis.
5. Recall that the radar altimeter indicates increments of 10 feet from zero to 200 feet, 50-foot increments from 200 to 2000 feet and 500-foot increments from 2000 to 5000 feet.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 11.3.1.5
11.3.1.6
11.3.1.7
11.3.1.8

11.3.1.005.00*

MONITOR VSD AND VIEW FROM THERMAL FLASHBLINDNESS WINDOW

VERTICAL SITUATION DISPLAY =TBD*
AND FLASHBLINDNESS WINDOWS =TBD

MONITOR-VISUAL

VERTICAL SITUATION DISPLAY
FLASHBLINDNESS WINDOWS

VERTICAL SITUATION DISPLAY = TBD
AND FLASHBLINDNESS WINDOWS = TBD

11.3.1.006.00*

MONITOR AIRSPEED-MACH INDICATOR

MONITOR-VISUAL

AMI-PILOT
AMI-COPILOT

AMI-PILOT = TBD*
AND AMI-COPILOT = TBD

11.3.1.007.00*

MONITOR TFB SCOPE FOR TERRAIN OBSTACLES

MONITOR-VISUAL

TF INDICATOR SCREEN

TF INDICATOR SCREEN = TBD*

11.3.1.008.00*

MONITOR HSI FOR COURSE DEVIATION

MONITOR-VISUAL

HEADING MARKER-PILOT
HEADING MARKER-COPILOT

HEADING MARKER-PILOT = TBD*
AND HEADING MARKER-COPILOT = TBD

OBJECTIVE: ENGAGE AFCS FOR ATF

11.13

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. TF

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that by depressing ENGAGE, the basic AFCS mode of flight path hold in the pitch axis and attitude hold in the roll axis is engaged.
2. Recall that selection of FLT DIR provides coupling to other flight director functions on the FLT DIR panel.
3. Recall that when AUTO THROT is selected, the MACH hold mode controls engine thrust to maintain Mach number at the value existing prior to AUTO THROT being selected.
4. Recall that AUTO THROT is not compatible with the Mach or A/S hold modes of the AFCS.

ANCILLARY OBJECTIVES:

1. Recall that with ENGAGE in the green, control stick steering is provided by flight control stick movement exceeding 0.25 inch.
2. Recall that the engage mode may be deactivated only by depressing the AFCS disengage switch on the flight control stick.
3. Recall that prior to engagement of TER FLW, the following switches must be set:
 - a. ALT RFF/TER FLW switches on both P's and CP's FLR DIR panels set to TER FLW.
 - b. MODE switches on both P's & CP's VSD set to ADI.
 - c. CL (clearance) switch on TFR control panel set to the desired ground clearance.
 - d. RIDE switch on TFR control panel set to the desired ride control.
 - e. Both MODE switches on TFR control panel set to TF position.
 - f. AUTO LTDN ENBL switch on the RDR ALTM panel set to AUTO LTDN ENBL position.

ANCILLARY OBJECTIVES: (Continued)

4. Recall that the TER FLW mode can be disengaged by actuating the trigger switch on the control stick to the second detent or by setting both ALT REF/TER FLW switches out of TER FLW position.
5. Recall that AUTO THROT can be disengaged by:
 - a. actuating disengage on the control sticks
 - b. pushing the AUTO THROT DISC button on one of the #4 throttle levers
 - c. selecting Mach or A/S hold modes
 - d. pushing the AUTO THROT select light a second time

OPERATOR: P/CP

TASK ELEMENTS:

11.4.1.1
11.4.1.2
11.4.1.3
11.4.1.4

11.4.1.001.00*

DEPRESS 'ENGAGE' BUTTON ON AFCS PANEL

DEPRESS

PILOTS ENGAGE PUSHBUTTON

PILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-G

11.4.1.002.00*

DEPRESS 'FLT DIR' LIGHTED PUSHBUTTON ON AFCS PANEL

DEPRESS

PILOTS FLT DIR PUSHBUTTON

PILOTS FLT DIR PUSHBUTTON = 'FLT DIR'-G

11.4.1.003.00*

DEPRESS 'TER FLW' LIGHTED PUSHBUTTON ON AFCS PANEL

DEPRESS

PILOTS TER FLWG PUSHBUTTON

PILOTS TER FLWG PUSHBUTTON = 'TER FLW'-G

11.4.1.004.00*

DEPRESS 'AUTO THROT' LIGHTED PUSHBUTTON ON AFCS PANEL

DEPRESS

PILOTS AUTO THROT PUSHBUTTON

PILOTS AUTO THROT PUSHBUTTON = 'AUTO THROT'-G

OBJECTIVE: PERFORM EVS UPDATE

11.14

CRITICALITY: 2

DIFFICULTY: 3

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO advise pilot that EVS update is required.
2. OSO request of pilot that EVS control be transferred to OSO.
3. OSO request pilot extend EVS pod.
4. OSO advise pilot update complete.

PERFORMANCE LIMITS: 1. Proper sequence
2. Proper switch positions
3. Update accuracy (I TBD miles)

ENABLING OBJECTIVES:

1. Recall that the sequence number identifier may be one of the following:
CP, OAP, TG, TM, ITS, IOF, DTS, DOF, or TRZ.
2. Recall that the sequence number defines the TTD and DIST data on the display.
3. Recall that when the COMD light is on either the PILOT or COPILOT light will be lit in the FLIR section of the EVS control panel.
4. Recall that when the BNS or MAN light is lit, control of the EVS sensor is accomplished by the OSO.
5. Recall that in the BNS mode, the sensor tracks the coordinates of the SEL PT displayed on the Navigation panel. In the MAN mode, the sensor steering is accomplished with the tracking handle.
6. Recall that SYMBOLS ON refers to line of sight (LOS) symbology being displayed on the MFD.
7. Recall that the LOS elevation and azimuth angles are oriented with respect to the aircraft reference line.
8. Recall that the elevation scale is oriented vertically on the left side of the MFD. The azimuth scale is oriented horizontally across the lower portion of the display.

ENABLING OBJECTIVES: (continued.)

2.

9. Recall that the MFD brightness control provides a continuous variation of video signal level from zero to a maximum.
10. Recall that the MFD contrast control provides a continuous variation of video signal amplitude from zero to a maximum.
11. Recall that a QUAL 3 will be automatically assigned, if no quality has been assigned the mission tape.
12. Recall that the UPDT QUAL can be modified by depressing update quality pushbutton on the NAV CORR panel.
13. Recall that the EVS update can be operated only if the EVS sensor being displayed on MFD is in the BNS steering mode.
14. Recall that when the EVS switch is activated, the EVS steering command mechanization is changed to MAN/track.
15. Recall that position fixing with the EVS requires two target angle observations.
16. Recall that the ACU accepts the first set of angles after the operator has centered the target with the tracking handle on the EVS X-hairs and activates the ENTER switch.
17. Recall that the triangulation sequence is completed when the X-hairs are realigned on the target and the ENTER switch is reactivated.
18. Recall that the fixtaking sequence can be terminated at any time by activating the EVS switch a second time.
19. Recall how to distinguish on the MFD between the checkpoint and other identifying points in the vicinity.

ANCILLARY OBJECTIVES:

1. Recall that if the KALMAN rejects the update, the UPDT REJ light comes on. It flashes for 17 seconds at 4 flashes/second and then deactivates.

OPERATOR: OSO

TASK ELEMENTS:

11.5.1.1	11.5.1.11
11.5.1.2	11.5.1.12
11.5.1.3	11.5.1.13
11.5.1.5	11.5.1.14
11.5.1.6	11.5.1.15
11.5.1.7	11.5.1.16
11.5.1.8	11.5.1.17
11.5.1.9	11.5.1.18
11.5.1.10	11.5.1.19
	11.5.1.20

11.5.1.001.00*

ADVISE PILOT EVS UPDATE REQUIRED

COMMUNICATE

CRT DISPLAY SURFACE

= TBD*

OSO ICS

PILOT ICS

= ACKNOWLEDGED

11.5.1.002.00*

NOTE NEXT SEQ. NO. IS A CP (CHECK POINT)

CHECK

SEQUENCE NUMBER IDENTIFIER = CP

SEQUENCE NUMBER

SEQUENCE NUMBER = TBD*

11.5.1.003.00*

REQUEST EVS CONTROL BE TRANSFERRED TO OSO*

COMMUNICATE

MULTIFUNCTION DISPLAY

= BLANK*

OSO ICS

PILOT ICS

= ACKNOWLEDGED

11.5.1.005.00*

NOTE FRONT STATION RELEASE OF EVS COMMAND CONTROL

CHECK

IR PILOT-COPILOT CMD
AND IR PILOT-COPILOT CMD

= 'PILOT'*
= OFF

IR PILOT-COPILOT CMD
IR STEER

IR STEER
OR IR STEER

= 'BNS'
= 'MAN'

11.5.1.006.00*

SET SENSOR TO BE DISPLAYED (FLIR) VIA VIDEO SELECT SWITCH

	VIDEO SELECT SWITCH	= FLIR
SET	VIDEO SELECT SWITCH	
	VIDEO SELECT SWITCH	= FLIR

11.5.1.007.00*

SET 'SYMBOLS ON' VIA EVS PANEL FOR ELEVATION AND AZIMUTH

	MULTIFUNCTION DISPLAY	= TBD*
SET	SYMBOLS SWITCH	
	MULTIFUNCTION DISPLAY	= TBD*

11.5.1.008.00*

ADJUST MED BRIGHTNESS AS NECESSARY

	MULTIFUNCTION DISPLAY	= TBD*
ADJUST	BRIGHTNESS CONTROL	
	MULTIFUNCTION DISPLAY	= TBD*

11.5.1.009.00*

ADJUST MED CONTRAST AS NECESSARY

	MULTIFUNCTION DISPLAY	= TBD*
ADJUST	CONTRAST CONTROL-MED	
	MULTIFUNCTION DISPLAY	= TBD*

11.5.1.010.00*

SELECT 'UPDATE QUALITY' PUSHBUTTON ON NAV CORR PANEL

	UPDATE QUALITY SELECTOR	= '1'
	OR UPDATE QUALITY SELECTOR	= '3'
SELECT	UPDATE QUALITY SELECTOR	
	UPDATE QUALITY SELECTOR	= '1'
	OR UPDATE QUALITY SELECTOR	= '3'

11.5.1.011.00*

DEPRESS EVS UPDATE MODE SWITCH ON NAV CORR PANEL

	EVS CONTROL SWITCH	= OFF
DEPRESS	EVS CONTROL SWITCH	
	EVS CONTROL SWITCH	= ON

11.5.1.012.00*

SET 'PPC' TOGGLE SWITCH ON RADAR CONTROL PANEL TO 'OUT'*

	PRESENT POSITION CORRECTION SW= IN
SET	PRESENT POSITION CORRECTION SW
	PRESENT POSITION CORRECTION SW= OUT

11.5.1.013.00*

IDENTIFY CHECK POINT OF INTEREST ON MED

IDENTIFY	CHECK POINT	
	MULTIFUNCTION DISPLAY	= TBD*

11.5.1.014.00*

NOTE PRESENT POSITION ERROR ON MED

CHECK	MULTIFUNCTION DISPLAY	
	FIDUCIALS	= TBD*

11.5.1.015.00*

MOVE VIDEO IMAGE FOR FIDUCIALS-CHECK POINT COINCIDENCE

	FIDUCIALS	= TBD*
DEPRESS	ENABLE SWITCH	
	FIDUCIALS	= TBD*

11.5.1.016.00*

DEPRESS 'ENTER' ON NAV CORR PANEL TO INITIATE UPDATE

	FIDUCIALS	= TBD*
DEPRESS	ENTER CONTROL	
	EVS CONTROL SWITCH	= ON*

11.5.1.017.00*

MOVE VIDEO IMAGE FOR FIDUCIALS-CHECK POINT COINCIDENCE*

	FIDUCIALS	= TBD*
DEPRESS	ENABLE SWITCH	
	FIDUCIALS	= TBD*

11.5.1.018.00*

DEPRESS 'ENTER' ON NAV CORR PANEL TO COMPLETE UPDATE

	FIDUCIALS	= TBD*
DEPRESS	ENTER CONTROL	
	EVS CONTROL SWITCH	= ON*

11.5.1.019.00*

NOTE UPDATE VALIDITY ON NAV CORR PANEL*

	IN UPDT INDICATOR	= 'IN UPDT'
CHECK	IN UPDT INDICATOR	
	IN UPDT INDICATOR	= OFF

11.5.1.020.00*

ADVISE PILOT THAT EVS UPDATE HAS BEEN COMPLETED

	IN UPDT INDICATOR	= OFF
COMMUNICATE	OSD ICS	
	PILOT ICS	= ACKNOWLEDGED*

OBJECTIVE: PERFORM EVS UPDATE

11.15

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. TF

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO advise pilot EVS update required.
 2. OSO request pilot transfer EVS control to OSO.
 3. OSO request pilot extent EVS pod.
 4. OSO advise pilot update complete.

ENABLING OBJECTIVES:

1. Recall that the EXD position of the IR pod control provides the primary means to lower the pod. In this position, steering can be accomplished with the tracking handle.
2. Recall that the steering command symbol should be superimposed over the fixed aircraft symbol on the VSD.

ANCILLARY OBJECTIVES:

1. Recall that in the FIXED or VECTOR positions, pod extension is commanded but steering is denied.

OPERATOR: P/CP

TASK ELEMENTS: 11.5.1.4
 11.5.1.21

11.5.1.004.00*

SET EVS POD CONTROL ROTARY SWITCH TO 'EXD'*

SET

OSO ICS

= REQ EVS CONTROL

IR POD CONTROL

IR POD CONTROL

= EXD

11.5.1.021.00*

OBSERVE AUTO PILOT STEERING CORRECTION ON VSD

MONITOR-VISUAL

OSO ICS

= CORR COMPLETED

STEERING COMMAND SYMBOL-PIL
STEERING COMMAND SYMBOL-COP

STEERING COMMAND SYMBOL-PIL = TBD*
AND STEERING COMMAND SYMBOL-COP = TBD

OBJECTIVE: EXECUTE FLR UPDATE

11.16

CRITICALITY: 2

DIFFICULTY: 3

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P acknowledges FLR update communication.
2. Pilot observes AUTO PILOT steering correction on VSD.

PERFORMANCE LIMITS: 1. Proper sequence.
2. Switches in proper position.
3. Successful discrimination of CP.
4. X-hairs - ⁺ TBD feet.

ENABLING OBJECTIVES:

1. Recall that when the PPC is IN, the tracking handle positions the FLR cursors and the ACU will accept a FLR update.
2. Recall that in GND AUTO, the range switch selects only one of the following ranges: 2.5, 5, 10, 30, 80 or 200.
3. Discriminate the CP on the radar scope from other radar returns in vicinity.
4. ~~Recall~~ that when GND VEL has been selected, the radar ground map remains stable on the display with the targets and cursors remaining at the center of the display.
5. Recall that in GND VEL, the range sweep selections are 7.5/2.5, 15/5, 30/10, 90/30, 160/80 or 200/200. The first and second numbers represent range sweep and display scale (diameter) in miles, respectively.
6. Recall that the UPDT QUAL of a selected point can be either 1, 2 or 3 where a high position accuracy is represented by number 1. A low quantity or relatively poor position accuracy is indicated by 3. With each switch depression the numbers sequence as follows: 1, 2, 3, 1, etc.
7. Recall that operating the sector toggle switch on the tracking handle causes the FLR antenna sector width to be reduced to $\pm 10^\circ$ about the azimuth cursor. The forward position of the switch selects narrow scan.
8. Recall that squeezing the enable switch on the tracking handle allows the X-hair cursors to be repositioned.
9. Recall that by depressing ENTER on the NAV CORR panel, when neither OVERFLY or EVS have been selected, initiates a position update based upon FLRX-hair position if PPC is in.

ANCILLIARY OBJECTIVES:

1. Recall that when the FLR mode switch is in GND AUTO, the range and azimuth cursors are controlled by the ACU.
2. Recall that the displayed Seq. No. has been entered into the ACU either via the mission tape or through the IKB.
3. Recall that the Seq. No. is controlled by both the Forward/Reverse switch and the right Cross Hair Control switches and activation of any one switch overrides any previous activation.
4. Recall that if the Kalman does not accept the update, the IN UPDT annunciator light goes off and UPDT REJ light comes on.
5. Recall that the UPDT REJ light flashes for 17 seconds at the rate of 4 flashes per second and then deactivates.
6. Recall that operating the sector toggle switch on the tracking handle to the off position selects the wide scan on the FLR antenna sector width.

OPERATOR: OSO

TASK ELEMENTS:

9.2.1.1	9.2.1.7	9.2.1.13
9.2.1.2	9.2.1.8	6.3.2.9
9.2.1.3	9.2.1.9	
9.2.1.4	9.2.1.10	
9.2.1.5	9.2.1.11	
9.2.1.6	9.2.1.12	
11.5.2.1	11.5.2.5	11.5.2.9
11.5.2.2	11.5.2.6	11.5.2.10
11.5.2.3	11.5.2.7	11.5.2.11
11.5.2.4	11.5.2.8	11.5.2.12
		11.5.2.13

09.2.1.001.00*

SET FLR SELECT ROTARY SWITCH TO 'GND AUTO'*

	CRT DISPLAY SURFACE	=TBD
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND AUTO

09.2.1.002.00*

SET PPC SWITCH ON RADAR SET CONTROL TO 'IN'

	CRT DISPLAY SURFACE	=TBD
SET	PRESENT POSITION CORRECTION SW	
	PRESENT POSITION CORRECTION SW= IN	

09.2.1.003.00*

OBSERVE NEXT SEQ NO IS A CP ON SEQ NO DIGITAL READOUT

	SEQUENCE NUMBER	= TBD
OBSERVE	SEQUENCE NUMBER	
	SEQUENCE NUMBER	= TBD
	AND PRE-PLANNED DATA SHEET	= TBD

09.2.1.004.00*

SET FLR RANGE SELECT ROTARY SWITCH TO DESIRED RANGE

	CRT DISPLAY SURFACE	=TBD*
SET	RANGE SWITCH-FLR	
	RANGE SWITCH-FLR	= TBD*

09.2.1.005.00*

IDENTIFY CP OF INTEREST ON FLR CRT SCOPE

	CRT DISPLAY SURFACE	=TBD*
IDENTIFY	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*

09.2.1.006.00* OBSERVE X-HAIR CURSORS POSITION RELATIVE TO CP

	RADAR CURSORS	= TBD*
OBSERVE	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= OBSERVED*

09.2.1.007.00* SET FLR SELECT ROTARY SWITCH TO 'GND VEL'

	CRT DISPLAY SURFACE	→=EXPANDED
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL*
	AND CRT DISPLAY SURFACE	= EXPANDED

09.2.1.008.00* DEPRESS UPDT QUAL PUSHBUTTON SWITCH ON NAV CORR PANEL

	UPDATE QUALITY SELECTOR	→=TBD*
DEPRESS	UPDATE QUALITY SELECTOR	
	UPDATE QUALITY SELECTOR	= TBD*

09.2.1.009.00* SET NARROW SECTOR SCAN ON FLR WITH TRACKING HOLE PUSHBUTTON

	CRT DISPLAY SURFACE	→=NARROW SECT SCAN*
DEPRESS	SECTOR SWITCH	
	CRT DISPLAY SURFACE	= NARROW SECT SCAN

09.2.1.010.00* POSITION X-HAIR CURSORS TO COINCIDE WITH CHECKPOINT

	CRT DISPLAY SURFACE	→=TBD*
POSITION	ENABLE SWITCH	
	X-HAIR CURSORS	= POSITIONED
	AND CRT DISPLAY SURFACE	= TBD

09.2.1.011.00*

DEPRESS 'ENTER' ON NAV CORR PANEL TO INTEGRATE CP UPDATE

X-HAIR CURSORS = POSITIONED
AND CRT DISPLAY SURFACE = TSD

DEPRESS

ENTER CONTROL

IN UPDT INDICATOR

= 'IN UPDT'*

09.2.1.012.00*

ADVISE PILOT FLR UPDATE HAS BEEN ACCEPTED AND IS COMPLETE

IN UPDT INDICATOR = OFF*

COMMUNICATE

OSO INTERPHONE SWITCH

PILOT ICS

= ACKNOWLEDGED

09.2.1.013.00*

OBSERVE AUTOPILOT STEERING CORRECTION ON VSD

OSO ICS

= UPDATE COMPLETED

OBSERVE

VERTICAL SITUATION DISPLAY

VERTICAL SITUATION DISPLAY

= OBSERVED*

06.3.2.009.00*

EXECUTE PRESENT POSITION UPDATE - AS REQUIRED*

COMBAT MISSION FOLDER = CHECKED
AND PRESENT POSITION LONGITUDE = ERROR

SAME AS 9.2.1.1 - 9.2.1.13

AND

11.5.2.1 - 11.5.2.13

11.5.2.001.00*

SET FLR SELECT ROTARY SWITCH TO 'GND AUTO'*

SET

CRT DISPLAY SURFACE

= TBD*

MODE SWITCH-RADAR SET

MODE SWITCH-RADAR SET

= GND AUTO

11.5.2.002.00*

SET PPC SWITCH ON RADAR SET CONTROL TO 'IN'

SET

CRT DISPLAY SURFACE

= TBD*

PRESENT POSITION CORRECTION SW

PRESENT POSITION CORRECTION SW= IN

11.5.2.003.00*

OBSERVE NEXT SEQ NO IS A CP ON SEQ NO DIGITAL BLADOUT

CHECK

SEQUENCE NUMBER

= TBD*

SEQUENCE NUMBER

SEQUENCE NUMBER

= TBD

AND PRE-PLANNED DATA SHEET

= TBD

11.5.2.004.00*

SET FLR RANGE SELECT ROTARY SWITCH TO DESIRED RANGE

SET

CRT DISPLAY SURFACE

= TBD*

RANGE SWITCH-FLR

RANGE SWITCH-FLR

= TBD*

11.5.2.005.00*

IDENTIFY CP OF INTEREST ON FLR CRT SCOPE

IDENTIFY

CRT DISPLAY SURFACE

= TBD*

CHECK POINT

CRT DISPLAY SURFACE

= TBD*

11.5.2.006.00*

OBSERVE X-HAIR CURSOR POSITION RELATIVE TO CP

CHECK

RADAR CURSORS

= TBD*

CRT DISPLAY SURFACE

CRT DISPLAY SURFACE

= OBSERVED*

11.5.2.007.00*

SET FLR SELECT ROTARY SWITCH TO 'GND VEL'

	CRT DISPLAY SURFACE	= EXPANDED
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL*
	AND CRT DISPLAY SURFACE	= EXPANDED

11.5.2.008.00*

DEPRESS UPDT QUAL PUSHBUTTON SWITCH ON NAV CORR PANEL

	UPDATE QUALITY SELECTOR	= '1'*
	OR UPDATE QUALITY SELECTOR	= '3'
DEPRESS	UPDATE QUALITY SELECTOR	
	UPDATE QUALITY SELECTOR	= '1'*
	OR UPDATE QUALITY SELECTOR	= '3'

11.5.2.009.00*

SET NARROW SECTOR SCAN ON FLR WITH TRACKING HOLE PUSHBUTTON

	CRT DISPLAY SURFACE	= NARROW SECT SCAN*
DEPRESS	SECTOR SWITCH	
	CRT DISPLAY SURFACE	= NARROW SECT SCAN

11.5.2.010.00*

POSITION X-HAIR CURSORS TO COINCIDE WITH CHECK POINT

	CRT DISPLAY SURFACE	= TBD*
DEPRESS	ENABLE SWITCH	
	X-HAIR CURSORS	= POSITIONED
	AND CRT DISPLAY SURFACE	= TBD

11.5.2.011.00*

DEPRESS 'ENTER' ON NAV CORR PANEL TO INTEGRATE CP UPDATE

	X-HAIR CURSORS	= POSITIONED
	AND CRT DISPLAY SURFACE	= TBD
DEPRESS	ENTER CONTROL	
	IN UPDT INDICATOR	= 'IN UPDT'*

11.5.2.012.00*

ADVISE PILOT FLR UPDATE HAS BEEN ACCEPTED AND IS COMPLETE

	IN UPDT INDICATOR	= OFF*
COMMUNICATE	OSD ICS	
	PILOT ICS	= ACKNOWLEDGED

11.5.2.013.00*

OBSERVE AUTOPILOT STEERING CORRECTION ON VSD

	OSD ICS	= UPDATE COMPLETED
MONITOR-VISUAL	STEERING COMMAND SYMBOL-PIL	
	STEERING COMMAND SYMBOL-COP	
	STEERING COMMAND SYMBOL-PIL	= TBD*
	AND STEERING COMMAND SYMBOL-COP	= TBD

OBJECTIVE: EXECUTE ALTITUDE CALIBRATION

11,17

CRITICALITY: 2

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE TASKS:

1. X-hair lay TBD (\pm ft)
2. Proper sequence
3. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that when GND VEL has been selected, the radar ground map remains stable on the display with the targets and cursors remaining at the center of the display.
2. Recall that in GND VEL, the range sweep selections are 7.5/2.5, 15/5, 20/10, 90/30, 160/80 or 200/200. The first and second numbers represent range sweep and display scale (diameter) in miles, respectively.
3. Recall that squeezing the enable switch permits all tracking handle functions except changing the sector width.
4. Recall how to identify the calibration point from other radar returns in the vicinity.
5. Recall that prior to an altitude calibration, the ELEV/ Δ ALT switch will be lit to indicate the terrain elevation of the calibration point.
6. Recall that if the ACPT/REJ toggle switch is set to REJ, the ELEV/ Δ ALT indicators will blank until the start of the turn to the next planned calibration destination.
7. Recall how to evaluate the Δ ALT readout for acceptability.

ANCILLARY OBJECTIVES:

1. Recall that if the correct ground speed is used the X-hairs will not drift from the scheduled elevation calibration point.

ANCILLARY OBJECTIVES: (continued.)

2.

2. Recall that the terrain elevation will be shown on the elevation/
altitude indicator as a numerical readout.

OPERATOR: OSO

<u>TASK ELEMENTS:</u>	9.2.2.2	10.2.4.1	11.5.3.1
	9.2.2.3	10.2.4.2	11.5.3.2
	9.2.2.4	10.2.4.3	11.5.3.3
	9.2.2.5	10.2.4.4	11.5.3.4
	9.2.2.6	10.2.4.5	11.5.3.5
	9.2.2.9	10.2.4.6	11.5.3.6
	9.2.2.10	10.2.4.7	11.5.3.7
	9.2.2.11	10.2.4.8	11.5.3.8
	9.2.2.12	10.2.4.9	11.5.3.9
	9.2.2.13	10.2.4.10	11.5.3.10
		10.2.4.11	

09.2.2.002.00*

SET ROTARY MODE SWITCH ON FLR CONTROL PANEL TO 'GND VEL'*

SET

CRT DISPLAY SURFACE

= HI-ALTIT CALIB.

MODE SWITCH-RADAR SET

MODE SWITCH-RADAR SET

= GND VEL

09.2.2.003.00*

DEPRESS TH 'ENBL' SW TO COMMAND FLR ANT TO MAX DNWD ANGLE*

DEPRESS

ANTENNA TILT INDICATOR

= 0

ENABLE SWITCH

ANTENNA TILT INDICATOR
AND CRT DISPLAY SURFACE

= -30
= READY

09.2.2.004.00*

DEPRESS TH 'ENBL' SW TO POSITION RNG CURS ON NEAREST RETURN

DEPRESS

RANGE CURSORS

= POSITIONED

ENABLE SWITCH

RANGE CURSORS
AND CRT DISPLAY SURFACE

= POSITIONED*
= OBSERVED

09.2.2.005.00*

DETERMINE GRD RTN 'COINCIDES' WITH SCHEDULED ELEV CALIB P1*

DETERMINE

STEERING DISTANCE READOUT

= TBD*

CRT DISPLAY SURFACE

CRT DISPLAY SURFACE
AND RANGE CURSORS

= TBD*
= POSITIONED

09.2.2.006.00*

DEPRESS TH 'ENBL' SWITCH TO PUSH RNG CURSOR FOR FINE ADJUSTM

DEPRESS

CRT DISPLAY SURFACE
AND RANGE CURSORS

= TBD
= POSITIONED

ENABLE SWITCH

RANGE CURSORS

= COINCIDENT*

09.2.2.009.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTIT CALIBRATION*

DEPRESS

ALTITUDE-ELEVATION SELECTOR = 'ELEV'-FLASHING

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = 'DALT'*

09.2.2.010.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

DEPRESS

AIR-VEHICLE = DOF
AND STEERING TIME READOUT = C

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

09.2.2.011.00*

EVALUATE DALT READOUT VALUE ON 'ALT CALBR' DIGITAL INDICATOR*

EVALUATE

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY

ELEVATION-DELTA ALTITUDE IND

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

09.2.2.012.00*

SET 'ACPT-REJ' TOGGLE SWITCH TO 'ACPT'

SET

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

ALTITUDE CALIBRATION SWITCH

IN UPDT INDICATOR = 'IN UPDT'

09.2.2.013.00*

NOTE KALMAN FILTER ACCEPTANCE OF ALTITUDE UPDATE

OBSERVE

IN UPDT INDICATOR = OFF*
AND ELEVATION-DELTA ALTITUDE IND = OFF

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = OFF

10.2.4.001.00*

SET ROTARY MODE SWITCH ON FLR CONTROL PANEL TO 'GND VEL'

	CRT DISPLAY SURFACE	= LOW-ALTIT CALIB
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL

10.2.4.002.00*

DEPRESS TH 'ENBL' SW TO COMMAND FLR ANT TO MAX DNWD ANGLE

	ANTENNA TILT INDICATOR	= C
DEPRESS	ENABLE SWITCH	
	ANTENNA TILT INDICATOR	= -30
	AND CRT DISPLAY SURFACE	= READY

10.2.4.003.00*

DEPRESS TH 'ENBL' SW TO POSITION RNG CURS ON NEAREST RETURN*

	RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= POSITIONED*
	AND CRT DISPLAY SURFACE	= OBSERVED

10.2.4.004.00*

DETERMINE GRD RIN 'COINCIDES' WITH SCHEDULED ELEV CALIB PT*

	STEERING DISTANCE READOUT	= TBD*
DETERMINE	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*
	AND RANGE CURSORS	= POSITIONED

10.2.4.005.00*

DEPRESS TH 'ENBL' SWITCH TO POSN RNG CURSOR FOR FINE ADJUSTM

	CRT DISPLAY SURFACE	= TBD
	AND RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= COINCIDENT*

10.2.4.006.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTI CALIBRATION*

DEPRESS ALTITUDE-ELEVATION SELECTOR = 'ELEV'-FLASHING
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'*

10.2.4.007.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

DEPRESS AIR-VEHICLE = DCF
AND STEERING TIME READOUT = 0
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

10.2.4.008.00*

EVALUATE DALT READOUT VALUE ON 'ALT CALBR' DIGITAL INDICATOR*

EVALUATE ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY
ELEVATION-DELTA ALTITUDE IND
ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

10.2.4.009.00*

SET 'ACPT-REJ' TOGGLE SWITCH TO 'ACPT'

SET ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE
ALTITUDE CALIBRATION SWITCH
IN UPDT INDICATOR = 'IN UPDT'

10.2.4.010.00*

NOTE KALMAN FILTER ACCEPTANCE OF ALTITUDE UPDATE

OBSERVE IN UPDT INDICATOR = OFF*
AND ELEVATION-DELTA ALTITUDE IND = OFF
ALTITUDE-ELEVATION SELECTOR
ALTITUDE-ELEVATION SELECTOR = OFF

10.2.4.011.00*

SET TRUE ALTITUDE (MSL) IN PRESSURE ALTIMETERS

SET

CHECKLIST

= SEQUENCE

AVVI-PILOT

AVVI-COPILOT

BAROMETRIC SETTING KNOB

AVVI-PILOT

= TBD*

AND AVVI-COPILOT

= TBD

AND BAROMETRIC SETTING KNOB

= TBD

11.5.3.001.00*

SET ROTARY MODE SWITCH ON FLR CONTROL PANEL TO 'GND VEL'*

	CRT DISPLAY SURFACE	= LOW-ALTIT CALIB.
SET	MODE SWITCH-RADAR SET	
	MODE SWITCH-RADAR SET	= GND VEL

11.5.3.002.00*

DEPRESS TH 'ENBL' SW TO COMMAND FLR ANT TO MAX DNWD ANGLE*

	ANTENNA TILT INDICATOR	= 0
DEPRESS	ENABLE SWITCH	
	ANTENNA TILT INDICATOR	= -30
	AND CRT DISPLAY SURFACE	= TBD

11.5.3.003.00*

DEPRESS TH 'ENBL' SW TO POSITION RNG CURS ON NEAREST RETURN

	RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= POSITIONED*
	AND CRT DISPLAY SURFACE	= TBD

11.5.3.004.00*

DETERMINE GRD RIN 'COINCIDES' WITH SCHEDULED ELEV CALIB PT*

	STEERING DISTANCE READOUT	= TBD*
CHECK	CRT DISPLAY SURFACE	
	CRT DISPLAY SURFACE	= TBD*
	AND RANGE CURSORS	= POSITIONED

11.5.3.005.00*

DEPRESS TH 'ENBL' SWITCH TO POSN RNG CURSOR FOR FINE ADJUSTM

	CRT DISPLAY SURFACE	= TBD
	AND RANGE CURSORS	= POSITIONED
DEPRESS	ENABLE SWITCH	
	RANGE CURSORS	= COINCIDENT*

11.5.3.006.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTI CALIBRATION*

DEPRESS

ALTITUDE-ELEVATION SELECTOR = 'ELEV'-FLASHING

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = 'DALT'*

11.5.3.007.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

DEPRESS

AIR-VEHICLE = DOF
AND STEERING TIME READOUT = 0

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

11.5.3.008.00*

EVALUATE DALT READOUT VALUE ON 'ALT CALBR' DIGITAL INDICATOR*

EVALUATE

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY

ELEVATION-DELTA ALTITUDE IND

ELEVATION-DELTA ALTITUDE IND = ACCEPTABLE

11.5.3.009.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO INITIATE ALTI CALIBRATION*

DEPRESS

ALTITUDE-ELEVATION SELECTOR = 'ELEV'-FLASHING

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = 'DALT'*

11.5.3.010.00*

DEPRESS 'ELEV-DALT' PUSHBUTTON TO FREEZE ELEVATION READOUT

DEPRESS

AIR-VEHICLE = DOF
AND STEERING TIME READOUT = 0

ALTITUDE-ELEVATION SELECTOR

ALTITUDE-ELEVATION SELECTOR = 'DALT'-STEADY*

MISSION SEGMENT 12

OBJECTIVE: PERFORM BDA OPERATIONS

12.1

CRITICALITY: 2

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO advise BDA required.
2. OSO communicate with pilot that EVS sensor required.
3. OSO confirm FLIR available on the MFD.
4. OSO inform P of "bomb" or flyby decision -
P acknowledge.

PERFORMANCE LIMITS: 1. Proper sequence.
2. Proper switch positions.
3. Proper decision to "bomb" or "flyby".

ENABLING OBJECTIVES:

1. Recall that the BDA REQ indicator lights one minute prior to the scheduled assessment and deactivates after the target has passed. It pulses at 4 times per second for the first five seconds and then goes steady.
2. Recall that with the video select switch on FLIR, standard video is presented on the MFD. Also, inverted video is available if FLIR-REV is selected.
3. Recall that in FLIR BNS STEER, the sensor tracks the coordinates of the SEL PT displayed on the navigation panel.
4. Interpret target BDA from radar and IR presentations on the FLR and MFD, respectively.
5. Recall that when the photo toggle switch is placed in AUTO, photographs are taken automatically once every 20 antenna frames (40 scans).
6. Recall what the criteria are whether to bomb the target or perform a "flyby".
7. Recall that depressing BOMB DLVY after the light is lit deactivates the bomb mode.

ANCILLARY OBJECTIVES:

1. Recall that if the target button is not depressed, it will automatically illuminate and the cross hairs will lay on the target when the air vehicle passes the IP.
2. Recall that in the BOMB mode photos are taken once every two antenna frames.

OPERATOR: OSO

TASK ELEMENTS:

12.1.1.1	12.1.1.11
12.1.1.6	12.1.1.12
12.1.1.7	12.1.1.13
12.1.1.8	12.1.1.14
12.1.1.9	12.1.1.15
12.1.1.10	

12.1.1.001.00*

ADVISE PILOT OF REQUIRED BDA

	BDA REQ ANNUNCIATOR	= 'BDA REQ'*
COMMUNICATE	DSO ICS	
	PILOT ICS	= ACKNOWLEDGED

12.1.1.006.00*

SET VIDEO SELECT ROTARY SWITCH TO 'FLIR'

	BDA REQ ANNUNCIATOR	= 'BDA REQ'
SET	VIDEO SELECT SWITCH	
	VIDEO SELECT SWITCH	= FLIR

12.1.1.007.00*

SET BNS MODE SWITCH TO FLIR BNS ON EVS STEERING CONTROL

	VIDEO SELECT SWITCH	= STV
SET	IR STEER	
	IR STEER	= 'BNS'

12.1.1.008.00*

CHECK THAT CURRENT STEER PT IS A GRAVITY TGT ON SEQ NO IDENT

	BDA REQ ANNUNCIATOR	= 'BDA REQ'
CHECK	NUMBER IDENTIFIER-STEERING	
	NUMBER IDENTIFIER-STEERING	= 'TGT'*
	AND STEERING SEQUENCE NUMBER	= TBD

12.1.1.009.00*

DEPRESS NAV PANEL X-HAIR 'TGT' PB TO OVERLAY X-HAIRS ON TGT

	GRAVITY TARGETS X-HAIR CONTROL= OFF	
DEPRESS	GRAVITY TARGETS X-HAIR CONTROL	
	GRAVITY TARGETS X-HAIR CONTROL= ON*	
	AND X-HAIR CURSORS	= POSITIONED

12.1.1.010.00*

IDENTIFY BDA TARGET USING MED AND FLR SCOPES

IDENTIFY	FIDUCIALS	= TBD*
	AND X-HAIR CURSORS	= POSITIONED
	TARGET	
	CRT DISPLAY SURFACE	= TBD*
	AND MULTIFUNCTION DISPLAY	= TBD

12.1.1.011.00*

IDENTIFY	<u>ASSESS TARGET DAMAGE</u>	
	CRT DISPLAY SURFACE	= TBD*
	AND MULTIFUNCTION DISPLAY	= TBD
	TARGET DAMAGE	
	CRT DISPLAY SURFACE	= TBD
	AND MULTIFUNCTION DISPLAY	= TBD

12.1.1.012.00*

SET PHOTO TOGGLE SW TO 'AUTO' ON FLR INDIC-REORDER PANEL

SET	CRT DISPLAY SURFACE	= TBD*
	AND MULTIFUNCTION DISPLAY	= TBD
	PHOTO CONTROL	
	PHOTO CONTROL	= AUTO*

12.1.1.013.00*

NOTIFY PILOT OF DECISION TO DEPLOY-WITHHOLD WEAPON*

COMMUNICATE	CRT DISPLAY SURFACE	= TBD*
	AND MULTIFUNCTION DISPLAY	= TBD
	OSD ICS	
	PILOT ICS	= ACKNOWLEDGED

12.1.1.014.00*

DEPRESS BOMB OLVEY ON SIDES DEL PANEL TO DEACTIVATE FLMB MOD

DEPRESS	CRT DISPLAY SURFACE	= TBD*
	AND MULTIFUNCTION DISPLAY	= TBD
	BOMB MODE CONTROL	
	BOMB MODE CONTROL	= OFF

12.1.1.015.00*

SET PHOTO SWITCH ON FLR INDICATOR-RECORDER TO OFF

SET

BDA REQ ANNUNCIATOR

= OFF

PHOTO CONTROL

PHOTO CONTROL

= OFF*

OBJECTIVE: PERFORM BDA OPERATIONS

12.2

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. BDA required

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO advise BDA required.
 2. OSO communicate with pilot that EVS sensor required.
 3. OSO confirm FLIR available on the MFD.
 4. OSO inform pilot of "bomb" or "flyby" decision.

PERFORMANCE LIMITS: 1. Proper sequence.
 2. Proper switch positions.

ENABLING OBJECTIVES:

1. Recall that the FLIR pod can only be extended from the front station.
2. Recall that in the EXD position, FLIR steering can be accomplished manually with the tracking handle or via the BNS mode of the ACU.
3. Recall that FLIR will be displayed on the VSD's only when IR is selected on the mode switch.

ANCILLARY OBJECTIVES:

1. Recall that in the fixed or vector positions, OSO steering is denied.
2. Recall that in the fixed or vector positions, pod extension can be commanded.

OPERATOR: P/CP

TASK ELEMENTS: 12.1.1.2
 12.1.1.3
 12.1.1.4
 12.1.1.5

12.1.1.002.00*

ACKNOWLEDGE EVS SENSOR REQUIRED FOR BDA*

COMMUNICATE

OSD ICS

= REQ EVS CONTROL

PILOT ICS

OSD ICS

= ACKNOWLEDGED

12.1.1.003.00*

SET EVS POD CONTROL ROTARY SWITCH TO 'EXD' IF RETRACTED

IR POD CONTROL

= RET

SET

IR POD CONTROL

VSD-PILOT
OR VSD-COPILOT

= TBD

= TBD

12.1.1.004.00*

CONFIRM EVS VIDEO IMAGE AVAILABLE TO OSD*

IR POD CONTROL

= EXD

COMMUNICATE

PILOT ICS

OSD ICS

= IMAGE AVAILABLE

12.1.1.005.00*

SET IR EVS POD CONTROL TO 'EXD' IF NOT RETRACTED*

OBJECTIVE: PERFORM SRAM INITIALIZATION

12.3

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. Target programmed for SRAM

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that OMSL will be displayed on the Pilot's Stores Panel, indicating that an offensive missile will be released next.
2. Recall that within one second after store release, the next weapon to be released will be displayed.

ANCILLARY TASKS:

OPERATOR: P/CP

TASK ELEMENTS: 12.1.2.1

12.1.2.001.00*

OBSERVE CURRENT SMWDP SEQ NO IS A GRAVITY WEAPON RELEASE*

NUMBER IDENTIFIER-STEERING = 'TG'
AND TYPE STORE INDICATOR = 'BOMB'

OBSERVE

SEQUENCE NUMBER
SEQUENCE POINT READOUT
SEQUENCE NUMBER IDENTIFIER

NUMBER IDENTIFIER-STEERING = 'TG'

OBJECTIVE: PERFORM SRAM INITIALIZATION

12.4

CRITICALITY: 2

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration
 2. Target programmed for SRAM

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper position

ENABLING OBJECTIVES:

1. Recall that the selected point sequence number is a three digit number with a dash addendum number. The number in the navigation panel should correspond to the SRAM missile release scheduled in the combat mission file (CMF).
2. Recall that by depressing PRGM on the stores management panel, the next program scheduled for release is displayed.
3. Recall that when RDIS is depressed, after PRGM has been depressed, the next program is displayed on the right SMS CRT.
4. Recall that by depressing STAT on the SMS panel, the weapon status at all locations is displayed on the left SMS CRT after LDIS is depressed.
5. Recall that by selecting the location (fwd, intmd, or aft), selected weapon locations and data are displayed.
6. Recall that the STA numeric keys enable the OSO to select a specific weapon station when the STAT display mode has been selected.
7. Recall that when the Store Power switch is selected and the store is a missile, electronics (initialization) power would be applied to all stations in the bay.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS:

12.1.2.1	12.1.2.5
12.1.2.2	12.1.2.6
12.1.2.3	
12.1.2.4	

12.1.2.001.00*

OBSERVE CURRENT SMWDP SEQ NO IS A GRAVITY WEAPON RELEASE*

NUMBER IDENTIFIER-STEERING = 'TG'
AND TYPE STORE INDICATOR = 'BOMB'

OBSERVE

SEQUENCE NUMBER
SEQUENCE POINT READOUT
SEQUENCE NUMBER IDENTIFIER

NUMBER IDENTIFIER-STEERING = 'TG'

12.1.2.002.00*

DEPRESS 'PRGM' ON SMS TO DISPLAY FULL SMWDP. THEN OPR 'RDIS'

DEPRESS

PRGM DATA CONTROL SWITCH
R DIS SELECTOR PUSHBUTTON

DISPLAY TUBE SURFACE = TBD*

12.1.2.003.00*

DEPRESS 'STAT' ON SMS TO DISPLAY FULL STATUS. THEN DPR 'LDIS'

DEPRESS

STAT DATA CONTROL SWITCH
L DIS SELECTOR PUSHBUTTON

DISPLAY TUBE SURFACE = TBD*

12.1.2.004.00*

DEPRESS 'LOCATION' TO SELECT 'FWD', INTMD, OR 'AFT' LOCATION

L DIS SELECTOR PUSHBUTTON = ON*
AND SMS CRT READOUT ASSEMBLY-LEFT = TBD

DEPRESS

LOCATION SELECT

LOCATION SELECT = FWD
OR LOCATION SELECT = AFT

12.1.2.005.00*

DEPRESS 'STA' NUMERIC PB TO SELECT SPECIFIC WEAPON STATION

LOCATION SELECT = FWD
OR LOCATION SELECT = AFT

DEPRESS

STATION NUMERIC KEYBOARD

STATION NUMERIC KEYBOARD = '1'*
OR STATION NUMERIC KEYBOARD = '3'

12.1.2.006.00*

SET SI PWB TOGGLE SWITCH TO 'ON' FOR INITIALIZATION (SI PWB)

	STATION NUMERIC KEYBOARD	= '1'*
SET	STORE POWER SWITCH .	
	STORE POWER SWITCH	= ON

OBJECTIVE: PERFORM SRAM PRE-LAUNCH OPERATION

12.5

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO notify pilot to initiate TAL.
2. Pilot verifies missile target within range.
3. Pilot verifies launch conditions within safe weapon release limits.
4. Pilot observes selected stores bay doors status indicators.

PERFORMANCE LIMITS: 1. Switches in proper position
2. Proper sequence

ENABLING OBJECTIVES:

1. Recall that a transfer alignment turn (TAL) must be made prior to the launch of a missile.
2. Recall under what conditions an automatic or manual release of a missile should be made.
3. Recall that when the IN RNG indicator is lit on the Stores Deliver Panel, a missile is within maximum range.
4. Recall that when the SAFE indicator is lit on the Stores Deliver Panel, a missile is within maximum range and outside the minimum range.
5. Recall that the weapons bay door control on the Stores Management Panel allows the doors to be fully or partially open by depressing the appropriate switch. The indicator flashes twice a second when in a transient state and illuminates steady when in either the full or part open position.

ANCILLARY OBJECTIVES:

1. Recall that the weapons bay door indicators flashes twice a second when in a transient state and illuminate steady when in the full or part open position.

OPERATOR: OSO

TASK ELEMENTS:

12.1.3.1
12.1.3.4
12.1.3.8
12.1.3.9
12.1.3.10

12.1.3.001.00

NOTIFY (P) TO INITIATE TRANSFER ALIGNMENT TURN (TAL)

	SMS CRT READOUT ASSEMBLY-LEFT = 'TAL REQ'*
COMMUNICATE	OSO ICS
	PILOT ICS = ACKNOWLEDGED

12.1.3.004.00

DEPRESS MISSILE DELIVERY SELECT PUSHBUTTON TO 'AUTO'

	MISSILE DELIVERY CONTROL	= 'MAN'
DEPRESS	MISSILE DELIVERY CONTROL	
	MISSILE DELIVERY CONTROL	= 'AUTO'*

12.1.3.008.00

VERIFY MISSILE TARGET IS WITHIN RANGE OF AIR VEHICLE POSN

	TIME-TO-GO READOUT	< 59
CHECK	INRANGE INDICATOR	
	ANNUNCIATOR INDICATOR-STORES	
	INRANGE INDICATOR	= 'INRNG'*
	AND ANNUNCIATOR INDICATOR-STORES	= 'IN RNG'

12.1.3.009.00

VERIFY LAUNCH CONDITIONS ARE WITHIN SAFE WEAPON REL LIMITS

	TIME-TO-GO READOUT	< 59
CHECK	SAFE INDICATOR	
	ANNUNCIATOR INDICATOR-STORES	
	SAFE INDICATOR	= 'SAFE'*
	AND ANNUNCIATOR INDICATOR-STORES	= 'SAFE'

12.1.3.010.00

OBSERVE SELECTED STORES BAY DOORS STATUS INDICATOR*

	FWD BAY DOOR STATUS IND	= 'PART'*
	AND FWD BAY DOOR CONTROL	= PART
CHECK	BAY DOOR STATUS INDICATORS	
	BAY DOOR CONTROL	
	FWD BAY DOOR STATUS IND	= 'FULL'*
	AND FWD BAY DOOR CONTROL	= FULL

OBJECTIVE: PERFORM SRAM PRE-LAUNCH OPERATIONS

12.6

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS: 1. Maintain altitude during TAL maneuvers

INTERACTION TASKS: 1. OSO monitor MFD and FLR during the transfer alignment turn (TAL).

PERFORMANCE LIMITS: 1. Heading - TBD (\pm degrees)
 2. Altitude - TBD (\pm ft)
 3. Airspeed - TBD (\pm Kts)

ENABLING OBJECTIVES:

1. Recall that the heading of the A/V can be changed by overpowering the AFCS; however, stick pressure will have to be maintained to hold the heading offset.
2. Recall that control stick steering (CSS) is available only in the basic AFCS mode of flight path hold in the pitch axis and attitude hold in the roll axis.
3. Recall that CSS is operational when the TAKE COMD and ENGAGE switchlights are green and all other lights on the AFCS panel are white.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 12.1.3.2
 12.1.3.3

12.1.3.002.00*

POSITION CONTROL STICK TO BANK A-V FOR 15 DEG HEADING CHANGE*

	HEADING READOUT-PILOT	= TBD*
TRACK	PILOTS FLIGHT CONTROL STICK	
	HEADING READOUT-PILOT	= TBD*

12.1.3.003.00*

RELEASE POSITIVE OVERRIDE CONTROL FORCE TO RETURN TO TRACK

	SMS CRT READOUT ASSEMBLY-LEFT	= TAL REQ
	AND OSU ICS	= TAL REQ BLANKED
RELEASE	PILOTS FLIGHT CONTROL STICK	
	HEADING READOUT-PILOT	= TBD*

OBJECTIVE: PERFORM SRAM PRE-LAUNCH PROCEDURES

12.7

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO verifies missile target is within range
 2. OSO verifies launch conditions within safe weapons
 release limits.
 3. OSO observes selected stores bay doors status.

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the time-to-go is time remaining to store release when the point type in the Point/Sequence readout is T.
2. Recall that when the IN RNG indicator is lit on the Pilot Stores Panel, store power is on and the air vehicle launch position is within maximum range for the selected trajectory.
3. Recall that when the SAFE indicator is lit on the Pilot Stores Panel, store power is on and a missile is within maximum range and outside the minimum range for the selected trajectory.
4. Recall that the weapons bay door indicator flashes twice a second when in a transient state and illuminates steady when in either the part or full open commanded position.

ANCILLARY OBJECTIVES:

1. Recall that the next weapon to be released will be displayed as store type within one second after store release.
2. Recall that the indicator showing the bay from which the next store will be released is illuminated 99 seconds prior to release.
3. Recall that a SRAM and a gravity weapon can be in countdown concurrently and so it is possible for two bay indicators to be illuminated simultaneously.

OPERATOR: P/CP

TASK ELEMENTS:

12.1.3.5

12.1.3.6

12.1.3.7

12.1.3.8

12.1.3.9

12.1.3.10

12.1.3.005.00

MONITOR TIG INDICATOR ON PILOT STORES PANEL

	TIME-TO-GO READOUT	< 59*
MONITOR-VISUAL	TIME-TO-GO READOUT	
	TIME-TO-GO READOUT	= 0*

12.1.3.006.00

VERIFY SELECTED STORE ON PILOT'S STORES PANEL READS 'MSL'

	TIME-TO-GO READOUT	< 59
CHECK	TYPE STORE INDICATOR	
	TYPE STORE INDICATOR	= 'MSL'

12.1.3.007.00

IDENTIFY SELECTED STORE LOCATION ON PILOT STORES PANEL

	TIME-TO-GO READOUT	< 59
CHECK	BAY LOCATION INDICATORS	
	BAY LOCATION INDICATORS	= 'CFWD'*
	OR BAY LOCATION INDICATORS	= 'AFT'

12.1.3.008.00

VERIFY MISSILE TARGET IS WITHIN RANGE OF AIR VEHICLE POSN

	TIME-TO-GO READOUT	< 59
CHECK	INRANGE INDICATOR	
	ANNUNCIATOR INDICATOR-STORES	
	INRANGE INDICATOR	= 'INRNG'*
	AND ANNUNCIATOR INDICATOR-STORES	= 'IN RNG'

12.1.3.009.00

VERIFY LAUNCH CONDITIONS ARE WITHIN SAFE WEAPON REL LIMITS

	TIME-TO-GO READOUT	< 59
CHECK	SAFE INDICATOR	
	ANNUNCIATOR INDICATOR-STORES	
	SAFE INDICATOR	= 'SAFE'*
	AND ANNUNCIATOR INDICATOR-STORES	= 'SAFE'

12.1.3.010.00

OBSERVE SELECTED STORES BAY DOORS STATUS INDICATOR*

FWD BAY DOOR STATUS IND = 'PART'*

AND FWD BAY DOOR CONTROL = PART

CHECK

BAY DOOR STATUS INDICATORS
BAY DOOR CONTROL

FWD BAY DOOR STATUS IND = 'FULL'*

AND FWD BAY DOOR CONTROL = FULL

OBJECTIVE: PERFORM SRAM LAUNCH OPERATIONS

12.8

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. SRAM initialization complete

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO verifies missile launch on Stores Delivery Panel.
 2. OSO verifies stores bay doors closing.
 3. OSO verifies missile release sequence complete.

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Interpret when the AFCS pitch steering is abnormal and indicates that pitch should be flown manually.
2. Recall that the AWAY indicator on the Pilot's Stores Panel is lit and remains on for 5 seconds after the weapon has separated from the rack.
3. Recall that the weapons bay door indicator flashes twice a second when in the transient closing state.

ANCILLARY OBJECTIVES:

1. Recall the nominal release parameters of the missile to insure that the missile doesn't hit the ground after launch.
2. Recall that when a multiple release is in progress the AWAY indicator on the Pilot's Stores Panel flashes twice a second until the multiple release is complete, at which time the light goes on steady for 5 seconds.

OPERATOR: P/CP

TASK ELEMENTS: 12.1.3.11 12.1.3.14
 12.1.3.12 12.1.3.15
 12.1.3.13

12.1.3.011.00

MONITOR AFCS PITCH STEERING

	TIME-TO-GO READOUT	= 5
MONITOR-VISUAL	STEERING COMMAND SYMBOL-PIL	
	STEERING COMMAND SYMBOL-PIL	= TBD*

12.1.3.012.00

MAINTAIN FLIGHT PATH TO ASSURE RELEASE PARAMETERS MET

	TIME-TO-GO READOUT	= 5
MONITOR-VISUAL	FLIGHT PATH ANGLE SYMBOL-PIL	
	AMI-PILOT	
	AVVI-PILOT	
	FLIGHT PATH ANGLE SYMBOL-PIL	= TBD*
	AND AVVI-PILOT	= TBD

12.1.3.013.00

VERIFY MISSILE LAUNCH ON ST DLVY AND PILOT STORES PANEL

	TIME-TO-GO READOUT	= 0
	AND ANNUNCIATOR INDICATOR-STORES	= 'REL SIG'
MONITOR-VISUAL	STORES AWAY INDICATOR	
	ANNUNCIATOR INDICATOR-STORES	
	STORES AWAY INDICATOR	= 'AWAY'*
	AND ANNUNCIATOR INDICATOR-STORES	= 'AWAY'

12.1.3.014.00

VERIFY STORES BAY DOORS CLOSING*

	FWD BAY DOOR STATUS IND	= 'PART'
	AND FWD BAY DOOR CONTROL	= PART
CHECK	BAY DOOR STATUS INDICATORS	
	BAY DOOR CONTROL	
	FWD BAY DOOR STATUS IND	= OFF
	AND FWD BAY DOOR CONTROL	= OFF

12.1.3.015.00

VERIFY WEAPON RELEASE SEQUENCE COMPLETE

FWD BAY DOOR STATUS IND = OFF
AND FWD BAY DOOR CONTROL = OFF

CHECK

SAFE-INRANGE-STORES AWAY IND
ANNUNCIATOR INDICATOR-STORES

SAFE-INRANGE-STORES AWAY IND = OFF
AND ANNUNCIATOR INDICATOR-STORES = OFF

OBJECTIVE: PERFORM SRAM LAUNCH OPERATIONS

12.9

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. SRAM initialization complete

CONCURRENT TASKS:

INTERACTION TASKS: 1. Pilot verifies missile launch on Pilot Stores Panel.
 2. Pilot verifies stores bay doors closing.
 3. Pilot verifies missile release sequence complete.

PERFORMANCE LIMITS: 1. Proper sequence.

ENABLING OBJECTIVES:

1. Recall that any scheduled release signal to the stores rack illuminates the REL SIG for 5 seconds.
2. Recall that the AWAY indicator is lit and remains on for 5 seconds after the weapon has separated from the rack.
3. Recall that the weapons bay door indicator flashes twice a second when the doors are in the transient closing state.

ANCILLARY OBJECTIVES:

1. Recall that when a multiple release is in progress the REL SIG comes on with the first release and pulses twice a second until the multiple release is complete, at which time the light goes on steady for 5 seconds.
2. Recall that for a multiple release the AWAY indicator operates the same as the REL SIG indicator described above.

OPERATOR: OSO

TASK ELEMENTS: 12.1.3.13
 12.1.3.14
 12.1.3.15

12.1.3.013.00

VERIFY MISSILE LAUNCH ON ST OLIVY AND PILOT STORES PANEL

	TIME-TO-GO READOUT	= 0
	AND ANNUNCIATOR INDICATOR-STORES	= 'REL SIC'
MONITOR-VISUAL	STORES AWAY INDICATOR	
	ANNUNCIATOR INDICATOR-STORES	
	STORES AWAY INDICATOR	= 'AWAY'*
	AND ANNUNCIATOR INDICATOR-STORES	= 'AWAY'

12.1.3.014.00

VERIFY STORES BAY DOORS CLOSING*

	FWD BAY DOOR STATUS IND	= 'PART'
	AND FWD BAY DOOR CONTROL	= PART
CHECK	BAY DOOR STATUS INDICATORS	
	BAY DOOR CONTROL	
	FWD BAY DOOR STATUS IND	= OFF
	AND FWD BAY DOOR CONTROL	= OFF

12.1.3.015.00

VERIFY WEAPON RELEASE SEQUENCE COMPLETE

	FWD BAY DOOR STATUS IND	= OFF
	AND FWD BAY DOOR CONTROL	= OFF
CHECK	SAFE-INRANGE-STORES AWAY IND	
	ANNUNCIATOR INDICATOR-STORES	
	SAFE-INRANGE-STORES AWAY IND	= OFF
	AND ANNUNCIATOR INDICATOR-STORES	= OFF

OBJECTIVE: PERFORM GRAVITY STORE PRE-RELEASE

12.10

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. Pilot performs gravity store pre-release at the same time.

PERFORMANCE LIMITS: 1. Proper sequence
 2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that TG shows at two locations on the navigator panel.
2. Recall that the gravity target sequence number defines the TTD and DIST data on the display.
3. Recall that by depressing PRGM and R DIS, the next program scheduled for release will be displayed on the right SMS CRT.
4. Recall that by depressing STAT and L DIS, the weapon status at all locations will be displayed on the left SMS CRT.
5. Recall that it may not be necessary to depress the bomb delivery AUTO/MAN switch. The AUTO segment is illuminated when the bomb mode is initiated.
6. Recall that time-to-go is presented on the MFD with the prefix TR (time to travel actual range to release point).
7. Recall that the keys on the station numeric keyboard are mutually exclusive.

ANCILLARY OBJECTIVES:

1. Recall that the TTD will indicate in minutes between IP and TGT until within one minute prior to release when it will indicate time in seconds.
2. Recall that a specific weapon can be selected when the STAT display mode has been selected. If a selection procedure has not been completed the selected key blinks twice each second.

OPERATOR: OSO

TASK ELEMENTS: 12.1.4.1
12.1.4.2
12.1.4.3
12.1.4.4
12.1.4.5.2
12.1.4.8

12.1.4.001.00*

OBSERVE CURRENT SMWDP SEQ NO IS A GRAVITY WEAPON RELEASE*

NUMBER IDENTIFIER-STEERING = 'TG'
AND TYPE STORE INDICATOR = 'BOMB'

OBSERVE

SEQUENCE NUMBER
SEQUENCE POINT READOUT
SEQUENCE NUMBER IDENTIFIER

NUMBER IDENTIFIER-STEERING = 'TG'

12.1.4.002.00*

DEPRESS 'PRGM' ON SMS TO DISPLAY FULL SMWDP. THEN DPR 'RDIS'

DEPRESS

PRGM DATA CONTROL SWITCH
R DIS SELECTOR PUSHBUTTON

DISPLAY TUBE SURFACE = TBD*

12.1.4.003.00*

DEPRESS 'STAT' ON SMS TO DISPLAY FULL STATUS. THEN DPR 'LDIS'

DEPRESS

STAT DATA CONTROL SWITCH
L DIS SELECTOR PUSHBUTTON

DISPLAY TUBE SURFACE = TBD*

12.1.4.004.00*

DEPRESS BOMB DLVY SELECT LIGHTED SWITCH TO 'AUTO'

BOMB DELIVERY CONTROL = 'MAN'

DEPRESS

BOMB DELIVERY CONTROL

BOMB DELIVERY CONTROL = 'AUTO'

12.1.4.005.02*

OBSERVE ITG ON MED

MULTIFUNCTION DISPLAY > 0*

MONITOR-VISUAL

MULTIFUNCTION DISPLAY

MULTIFUNCTION DISPLAY = TBD

12.1.4.006.00*

DEPRESS 'STA' NUMERIC PB TO SELECT SPECIFIC WEAPON STATION

LOCATION SELECT = FWD
OR LOCATION SELECT = AFT

DEPRESS

STATION NUMERIC KEYBOARD

STATION NUMERIC KEYBOARD = '1'*
OR STATION NUMERIC KEYBOARD = '3'

OBJECTIVE: PERFORM GRAVITY STORE PRE-RELEASE

12.11

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO performs gravity store pre-release at the same time

PERFORMANCE LIMITS: 1. Proper sequence

ENABLING OBJECTIVES:

1. Recall that the Point/Sequence readout displays a T for target.
2. Recall that the TTD will indicate in minutes between IP and TGT until one minute prior to release when it will indicate time in seconds.
3. Recall that BOMB will be displayed for all types of nuclear or conventional gravity bombs and OMSL for offensive missiles.
4. Recall that the bay from which the next store is to be released is illuminated 99 seconds prior to release of either a SRAM or gravity.
5. Recall that it is possible for two bay indicators to be illuminated simultaneously since both a SRAM and gravity weapon can be in countdown concurrently.
6. Recall that the steering mode legend BOMB appears in the lower right-hand corner of the DU screen.

ANCILLARY OBJECTIVES:

1. Recall that when BOMB appears on the VSD any steering command information will be referenced to the bomb run.

OPERATOR: P/CP

TASK ELEMENTS: 12.1.4.5
 12.1.4.5.1
 12.1.4.6
 12.1.4.7
 12.1.4.9

12.1.4.005.00*

OBSERVE ITG ON PILOT STORES PANEL AND MED*

12.1.4.005.01*

OBSERVE ITG INDICATOR ON PILOT STORES PANEL

MONITOR-VISUAL

TIME-TO-GO READOUT > 0*

SEQUENCE POINT READOUT
TIME-TO-GO READOUT
TIME TO GO-RANGE DISPLAY-PII

SEQUENCE POINT READOUT = T
AND TIME TO GO-RANGE DISPLAY-PII = TBD

12.1.4.006.00*

CHECK SELECTED STORE TYPE ON PILOT STORES PANEL

CHECK

TIME-TO-GO READOUT > 0

TYPE STORE INDICATOR

TYPE STORE INDICATOR = 'BOMB'

12.1.4.007.00*

IDENTIFY SELECTED GRAVITY STORE BAY LOCATION ON PILOT STORES PANEL

IDENTIFY

TIME-TO-GO READOUT > 0

BAY INDICATOR-FORWARD LIGHT
BAY INDICATOR-INTMD LIGHT
BAY INDICATOR-AFT LIGHT

BAY INDICATOR-FORWARD LIGHT = 'FWD'
OR BAY INDICATOR-AFT LIGHT = 'AFT'

12.1.4.009.00*

OBSERVE THAT BOMB STEERING IS INITIATED

OBSERVE

TIME-TO-GO READOUT > 0

STEERING MODE LEGEND-PILOT

STEERING MODE LEGEND-PILOT = 'BOMB'

OBJECTIVE: PERFORM BOMB RUN TRACKING

12.12

CRITICALITY: 2

DIFFICULTY: 3

INITIAL CONDITIONS: 1. Cruise configuration
 2. Weapon delivery run initiated

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO advise pilot of required steering corrections.
 2. Pilot monitor OSO steering corrections.

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper positions
 3. X-hair lay - TBD(1ft)

ENABLING OBJECTIVES:

1. Recall how to distinguish between the OAP 1 and OAP 2 radar returns and other returns in the vicinity.
2. Recall that steering or bomb release are not affected by activation of the OAP 1 or OAP 2 switches.
3. Recall that once OAP 1 or OAP 2 has been selected, changes to the x-hair position via the tracking handle does affect steering and alters the aircraft course.

ANCILLARY OBJECTIVES:

1. Recall how to reposition the X-hairs on the OAPs if the X-hairs do not overlay the OAPs.
2. Recall that if the target breaks out during the bomb run, the X-hairs can be positioned on the TGT rather than on OAP 1 or OAP 2 and a more accurate bomb drop accomplished.

OPERATOR: OSO

TASK ELEMENTS: 12.1.4.10
 12.1.4.11
 12.1.4.12
 12.1.4.13
 12.1.4.14

12.1.4.010.00*

DEPRESS 'OAP 1' ON NAV PANEL. THEN IDENTIFY OAP ON FLR

DEPRESS

OFFSET AIM POINT-1 CONTROL

OFFSET AIM POINT-1 CONTROL = ON*
AND CRT DISPLAY SURFACE = TBD

12.1.4.011.00*

DEPRESS 'OAP 2' ON NAV PANEL. THEN IDENTIFY OAP ON FLR

DEPRESS

OFFSET AIM POINT-2 CONTROL

OFFSET AIM POINT-2 CONTROL = ON*
AND CRT DISPLAY SURFACE = TBD

12.1.4.012.00*

ADVISE PILOT OF REQUIRED STEERING CORRECTIONS*

COMMUNICATE

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

DSU INTERPHONE SWITCH

PILOT ICS = ACKNOWLEDGED

12.1.4.013.00*

POSITION X-HAIRS TO COINCIDE WITH OAP USING TRACKING HANDLE*

POSITION

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

ENABLE SWITCH

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

12.1.4.014.00*

DEPRESS 'OAP 2' LIGHTED PUSHBUTTON ON NAV PANEL

DEPRESS

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

OFFSET AIM POINT-2 CONTROL

X-HAIR CURSORS = POSITIONED*
AND CRT DISPLAY SURFACE = TBD

OBJECTIVE: PERFORM GRAVITY STORE RELEASE

12.13

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. Gravity store pre-release complete

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO performs gravity store release procedures at the same time.
 2. OSO advises pilot to initiate-insure planned bombing altitude.
 3. Notify other crew members of imminent shock.

PERFORMANCE LIMITS: 1. Proper sequence
 2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that the TTD will indicate in seconds when approaching release.
2. Recall that the steering symbol will blink three times a second when the A/V is outside of weapon release limits.
3. Recall that the bomb bay door indicators flash twice a second when in a transient state.
4. Recall that the AWAY indicator is ACU controlled to illuminate when the weapon has separated from the rack.
5. Recall that if a second weapon is scheduled for release, the bomb legend on the VSD will go to a steady on state; otherwise, the legend will correspond to the steering bomb selected previously.
6. Calculate shock arrival time based on the type of weapon, type of burst (air or ground), method of descent (free-fall, retarded, etc.)
7. Recall how to judge what is the lowest appropriate clearance plane setting for various flight and weather conditions.

ANCILLARY OBJECTIVES:

1. Recall that the AFCS will be disengaged if the trigger switch on the stick is depressed to the second detent.
2. Recall that if the clearance plane setting is set on 500 the TFR is in a special weather mode that employs additional video blanking. The area from which radar returns are processed is limited.

OPERATOR: P/CP

TASK ELEMENTS: 12.1.4.18
12.1.4.20
12.1.4.22
12.1.4.23
12.1.4.24
12.1.4.25
12.1.4.26
12.1.4.27
12.1.4.28

12.1.4.018.00*

MONITOR TTG INDICATOR ON PILOT STORES PANEL

	TIME-TO-GO READOUT	> 0*
	AND STEERING TIME READOUT	> 0
MONITOR-VISUAL	TIME-TO-GO READOUT	
	STEERING TIME READOUT	
	TIME-TO-GO READOUT	= TBD*
	AND STEERING TIME READOUT	= TBD

12.1.4.020.00*

DEPRESS AFCS INTERR-DISC TRIG SW ON STICK TO FIRST DETENT

	CRT TUBE DISPLAY-PILOT	= TBD*
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	PILOT AFCS INTRPT-DISENG CNTRL= FIRST DETENT*	

12.1.4.022.00*

SET CL SW TO SELECT APPROPRIATE CLEARANCE PLANE FOR W.D.

	AVVI-PILOT	= TBD
SET	CLEARANCE SELECT SWITCH	
	CLEARANCE SELECT SWITCH	= TBD*

12.1.4.023.00*

CHECK A-V FLT CONDITS ARE WITHIN SAFE WEAPON REL LIMITS

	TIME-TO-GO READOUT	> 0*
CHECK	STEERING COMMAND SYMBOL-PIL	
	STEERING COMMAND SYMBOL-PIL	= ON-STEADY

12.1.4.024.00*

OBSERVE SELECTED STORES BAY DOORS STATUS INDICATORS*

	BAY DOOR STATUS INDICATORS	= FLASHING*
	AND FWD BAY DOOR CONTROL	= FLASHING
OBSERVE	BAY DOOR STATUS INDICATORS	
	FWD BAY DOOR CONTROL	
	BAY DOOR STATUS INDICATORS	= 'FULL'*
	AND FWD BAY DOOR CONTROL	= ON-G

12.1.4.025.00*

CHECK GRAVITY STORE RELEASE, USING VSD, PLT ST, ST DEL PANS

CHECK

12.1.4.025.01*

CHECK GRAVITY STORE RELEASE USING VSD AND PILOT STORES PANEL

CHECK

TIME-TO-GO READOUT = 0*
AND STEERING MODE LEGEND-PILOT = 'BOMB'-FLASHING

TIME-TO-GO READOUT
STORES AWAY INDICATOR
STEERING MODE LEGEND-PILOT

STORES AWAY INDICATOR = OFF*
OR STEERING MODE LEGEND-PILOT = OFF

12.1.4.025.02*

CHECK GRAVITY STORE RELEASE USING STORES DELIVERY PANELS

CHECK

RELEASE SIGNAL ANNUNCIATOR = 'REL SIG'*
AND AWAY ANNUNCIATOR = 'AWAY'

RELEASE SIGNAL ANNUNCIATOR
AWAY ANNUNCIATOR

RELEASE SIGNAL ANNUNCIATOR = OFF*
AND AWAY ANNUNCIATOR = OFF

12.1.4.026.00*

VERIFY STORES BAY DOORS CLOSING*

CHECK

FWD BAY DOOR STATUS IND = 'PART'
AND FWD BAY DOOR CONTROL = 'PART'

BAY DOOR STATUS INDICATORS
BAY DOOR CONTROL

FWD BAY DOOR STATUS IND = OFF
AND FWD BAY DOOR CONTROL = OFF

12.1.4.027.00*

SET CL SW TO LOWEST APPROPRIATE CLEARANCE PLANE SETTING

FWD BAY DOOR STATUS IND = OFF
AND FWD BAY DOOR CONTROL = OFF

SET

CLEARANCE SELECT SWITCH

CLEARANCE SELECT SWITCH = TBD
AND STEERING COMMAND SYMBOL-PIL = TBD

12.1.4.028.00*

NOTIFY P OSO DSO SHOCK ARRIVAL IS IMMINENT

CLOCK-COPILOT = TBD*

COMMUNICATE

PUSH-TO-TALK SWITCH-COPILOT

PILOT ICS = ACKNOWLEDGED
AND DSO ICS = ACKNOWLEDGED

12.14

DIFFICULTY: 1

<u>TASK ELEMENTS:</u>	12.1.4.19	12.1.4.25.01
	12.1.4.24	12.1.4.25.02
	12.1.4.25	
	12.1.4.26	

12.1.4.019.00*

ADVISE PILOT TO INITIATE-INSURE PLANNED BOMBING ALTITUDE

COMMUNICATE

CRT TUBE DISPLAY-PILOT

=TBD*

USO INTERPHONE SWITCH

PILOT ICS

= ACKNOWLEDGED

12.1.4.024.00*

OBSERVE SELECTED STORES BAY DOORS STATUS INDICATORS*

OBSERVE

BAY DOOR STATUS INDICATORS
AND FWD BAY DOOR CONTROL

= FLASHING*

= FLASHING

BAY DOOR STATUS INDICATORS
FWD BAY DOOR CONTROL

BAY DOOR STATUS INDICATORS
AND FWD BAY DOOR CONTROL

= 'FULL'*

= FN-G

12.1.4.025.00*

CHECK GRAVITY STORE RELEASE USING VSD, PLT ST, ST DEL PANS

CHECK

12.1.4.025.01*

CHECK GRAVITY STORE RELEASE USING VSD AND PILOT STORES PANEL

CHECK

TIME-TO-GO READOUT
AND STEERING MODE LEGEND-PILOT

= C*

= 'POMB'-FLASHING

TIME-TO-GO READOUT
STORES AWAY INDICATOR
STEERING MODE LEGEND-PILOT

STORES AWAY INDICATOR
OR STEERING MODE LEGEND-PILOT

= OFF*

= OFF

12.1.4.025.02*

CHECK GRAVITY STORE RELEASE USING STORES DELIVERY PANELS

CHECK

RELEASE SIGNAL ANNUNCIATOR
AND AWAY ANNUNCIATOR

= 'REL SIG'*

= 'AWAY'

RELEASE SIGNAL ANNUNCIATOR
AWAY ANNUNCIATOR

RELEASE SIGNAL ANNUNCIATOR
AND AWAY ANNUNCIATOR

= OFF*

= OFF

12.1.4.026.00*

VERIFY STORES BAY DOORS CLOSING*

CHECK

FWD BAY DOOR STATUS IND = 'PART'
AND FWD BAY DOOR CONTROL = 'PART'

BAY DOOR STATUS INDICATORS
BAY DOOR CONTROL

FWD BAY DOOR STATUS IND = OFF
AND FWD BAY DOOR CONTROL = OFF

MISSION SEGMENT 13

OBJECTIVE: TERMINATE TF PROCEDURES

13.1

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS: 1. Track with control stick and rudders to maintain
desired heading.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm Kts)
2. Altitude - TBD (\pm ft)

ENABLING OBJECTIVES:

1. Calculate power level setting for withdrawal.
2. Calculate optimum withdrawal speed.
3. Calculate the best wing sweep angle for optimum speed.
4. Coordinate control stick and rudders for best withdrawal.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 13.1.1.5
13.1.1.6
13.1.1.7

13.1.1.005.00*

ADJUST THROTTLES, IF REQUIRED, FOR OPTIMUM WITHDRAWAL SPEED

	AMI-PILOT	= TSD*
POSITION	PRIMARY THROTTLE LEVERS-PI	
	POWER LEVEL INDICATOR	= TSD
	AND AMI-PILOT	= TSD

13.1.1.006.00*

ADJUST WING SWEEP LEVER TO IED ANGLE

	WING SWEEP POSITION INDICATOR	= TSD*
POSITION	PILOTS WING SWEEP HANDLE	
	WING SWEEP POSITION INDICATOR	= TSD
	AND AMI-PILOT	= TSD

13.1.1.007.00*

MANIPULATE CONTROL STICK TO INITIATE WITHDRAWAL CLIMBOUT

	PITCH SCALE-PILOT	= TSD*
TRACK	PILOTS FLIGHT CONTROL STICK	
	PITCH SCALE-PILOT	= TSD*

OBJECTIVE: TERMINATE TF OPERATIONS

13.2

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
 2. TF

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
 2. Proper switch positions

ENABLING OBJECTIVES:

1. Recall that when TER FLW is disengaged, the AFCS reverts to the basic mode of flight path hold in pitch and attitude hold in roll.
2. Recall that with the TER FLW/ALT REF switch in the OFF position, neither a reference altitude nor clearance plane can be followed.
3. Recall that with the left and right TFR mode switches in standby, both channels are in warmup and ready for operation in the terrain following situation or ground mapping modes.
4. Recall that when AUTO THROT is disengaged, mach will not be maintained as it was in the terrain following mode with automatic throttle control.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 13.1.1.1
 13.1.1.2
 13.1.1.3
 13.1.1.4

13.1.1.001.00*

DEPRESS 'TER FLW' PB SWITCHLIGHT TO DISENGAGE IF*

COMBAT MISSION FOLDER = TSD*
DEPRESS PILOTS TER FLWG PUSHBUTTON
PILOTS TER FLWG PUSHBUTTON = 'TER FLW'-W

13.1.1.002.00*

SET 'TER FLW-ALL REF' SW ON FLT DIR PANELS TO OFF

PILOTS TER FLWG PUSHBUTTON = 'TER FLW'-W
SET ALT REF-TER FLW SW-PILOT
ALT REF-TER FLW SW-COPILOT
ALT REF-TER FLW SW-PILOT = OFF
AND ALT REF-TER FLW SW-COPILOT = OFF

13.1.1.003.00*

SET L AND R TER MODE SWITCHES TO 'STBY'

ALT REF-TER FLW SW-PILOT = OFF
AND ALT REF-TER FLW SW-COPILOT = OFF
SET TER MODE SWITCH-LEFT
TER MODE SWITCH-RIGHT
TER MODE SWITCH-LEFT = STBY
AND TER MODE SWITCH-RIGHT = STBY

13.1.1.004.00*

DEPRESS 'AUTO THROT' PB TO DISENGAGE AUTO THROTTLE CONTROL

TER MODE SWITCH-LEFT = STBY
AND TER MODE SWITCH-RIGHT = STBY
DEPRESS PILOTS AUTO THROT PUSHBUTTON
PILOTS AUTO THROT PUSHBUTTON = 'AUTO THROT'-W

OBJECTIVE: ESTABLISH SUBSONIC CRUISE OPERATIONS

13.3

CRITICALITY: 1

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS: 1. Track with control stick and rudders to hold desired heading.

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Altitude - TBD (\pm ft)
2. Heading - TBD (\pm degrees)
3. Airspeed - TBD (\pm Kts)

ENABLING OBJECTIVES:

1. Calculate altitude lead to initiate pitch attitude change.
2. Predict necessary pitch change for level-off.
3. Coordinate control stick and throttles to achieve level-off.
4. Track with control stick to maintain level-off altitude.
5. Adjust power level to maintain cruise airspeed or Mach number.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 13.1.2.2

13.1.2.C02.00*

TRACK WITH STICK & RUDDERS TO ATTAIN DESIRED CLEARANCE PLANE

TRACK

AVVI-PILOT

=TBD*

PILOTS FLIGHT CONTROL STICK
PILOTS RUDDER PEDALS

AVVI-PILOT

=TBD*

OBJECTIVE: ESTABLISH SUBSONIC CRUISE PROCEDURES

13.4

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. TF withdrawal in progress

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Airspeed - TBD (+Kts)
2. Heading - TBD (+Kts)
3. Altitude - TBD (+ft)

ENABLING OBJECTIVES:

1. Recall that either airspeed, mach or altitude hold may be selected but no two of these modes may be selected concurrently.
2. Recall that the reference (airspeed, mach or altitude) may be changed through the AFCS interrupt switch on the control switch. After the pilot manually changes to the new reference and releases the interrupt switch, the air vehicle will maintain the new reference.

ANCILLARY OBJECTIVES:

1. Recall what the airspeed and angle of attack limits are for the flight condition being flown.
2. Recall that in the airspeed and mach hold modes, airspeed or mach is maintained by changes in air vehicle altitude and not by changes in engine throttle settings.

OPERATOR: P/CP

TASK ELEMENTS: 13.1.2.3
13.1.2.4
13.1.2.5

13.1.2.003.00*

MONITOR MACH-AIRSPPEED INDICATOR (AMI)

	AMI-PILOT	= TBD*
MONITOR-VISUAL	AMI-PILOT	
	AMI-PILOT	= TBD*
	AND AUA INDICATOR-PILOT	= TBD

13.1.2.004.00*

MONITOR HSI FOR CORRECT HEADING

	HSI-PILOT	= TBD*
MONITOR-VISUAL	HSI-PILOT	
	HSI-PILOT	= TBD*

13.1.2.005.00*

SELECT DESIRED AFCS MODES, IF REQUIRED

DEPRESS	PLTS ALTITUDE HOLD PUSHBUTTON
	PILOT AIRSPEED HOLD PUSHBUTTON
	PLTS MACH (MACH HOLD) PSHBTN
	PLTS ALTITUDE HOLD PUSHBUTTON = 'ALT'-G*
	OR PLTS MACH (MACH HOLD) PSHBTN = 'MACH'-G

OBJECTIVE: ASSEMBLE STRIKE REPORT INFORMATION

13.5

INITIAL CONDITIONS: 1. CRITICALITY: 1
2. TF withdrawal

DIFFICULTY: 1

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO advise CP of damage effectiveness.

PERFORMANCE LIMITS: 1. Accurate damage assessment.

ENABLING OBJECTIVES:

1. Interpret damage effectiveness from observing the target return on the FLR.

ANCILLARY OBJECTIVES:

1. Recall that the estimate should be based on how well X-hair synchronization was accomplished prior to weapon release. It will be impossible to check how well synchronization was maintained after release unless the weapon was a dud.

OPERATOR: OSO

TASK ELEMENTS: 13.2.1.4

13.2.1.004.00*

ADVISE CP OF ESTIMATED DAMAGE EFFECTIVENESS*

COMMUNICATE

OSD ICS

CO-PILOT ICS

= ACKNOWLEDGED

OBJECTIVE: TRANSMIT STRIKE REPORT

13.6

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. TF withdrawal

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO advise CP of estimated damage effectiveness.

PERFORMANCE LIMITS: 1. Transmit proper strike success code.

ENABLING OBJECTIVES:

1. Recall that there are six knobs used to set frequency.
2. Recall that the RF gain control provides better signal to noise ratio.
3. Recall that when the HF button is pulled on the ICS panel and the white HF light is ON, the other channels are electrically locked out.

ANCILLARY OBJECTIVES:

1. Recall that the HF radio has three modes of operation SSB, AME and FSK with 280,000 channels available.
2. Recall that to prevent selection of frequencies below 2,000 KHz, the 1000 KHz and 10,000 KHz knobs are interlocked.

OPERATOR: P/CP

TASK ELEMENTS: 13.2.1.5
13.2.1.6
13.2.1.7
13.2.1.8
13.2.1.9

13.2.1.005.00*

SET HF MODE SWITCH TO 'SSB' (SINGLE SIDEBAND)

SET

RADIO MODE SELECT SWITCH

RADIO MODE SELECT SWITCH = SSB

13.2.1.006.00*

SET FREQUENCY INDICATOR-SELECTOR KNOWS TO DESIRED HF FREQ.

SET

RADIO MODE SELECT SWITCH = SSB

FREQUENCY INDICATOR-SELECTOR

FREQUENCY INDICATOR-SELECTOR = TBD*

13.2.1.007.00*

PULL HF RADIO SWITCH KNOB ON ICS PANEL

PULL

FREQUENCY INDICATOR-SELECTOR = TBD

HF CONTROL SWITCH-COPILOT

HF TRANS MODE LIGHT-COPILOT = ON

13.2.1.008.00*

ADJUST HF GAIN, VOLUME AND SQUELCH CONTROLS, AS REQUIRED

ADJUST

HF TRANS MODE LIGHT-COPILOT = ON

SQUELCH CONTROL

VOLUME CONTROL-RADIO

RF GAIN CONTROL

SQUELCH CONTROL = TBD
AND RF GAIN CONTROL = TBD

13.2.1.009.00*

DEPRESS MIC ON #4 THROTTLE AND TRANSMIT STBIKE SUCCESS CODE

COMMUNICATE

SQUELCH CONTROL = TBD
AND RF GAIN CONTROL = TBD

COPILOTS HF

COPILOTS HF = MESS TRANSMITTED

MISSION SEGMENT 14

OBJECTIVE: REVIEW PENETRATION PROCEDURES

14.1

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO & DSO review the penetration and approach procedures.

PERFORMANCE LIMITS: 1. Switch in proper position

ENABLING OBJECTIVES:

1. Recall how to interpret the procedures depicted on the specific letdown chart for the post-strike landing base.

ANCILLARY OBJECTIVES:

1. Recall that if no standard instrument approach is available, the normal SAC penetration to the AILA should be followed.
2. Recall that when the MDA is set into the radar altimeter, the low-altitude warning light will illuminate if the A/V descends below the MDA.

OPERATOR: P/CP

TASK ELEMENTS: 14.1.1.1
14.1.1.2

14.1.1.001.00*

REVIEW PENETRATION AND APPROACH PROCEDURES

REVIEW

CHECKLIST

= SEQUENCE

PENETRATION & APPR PROCEDURES

PENETRATION & APPR PROCEDURES = REVIEWED

14.1.1.002.00*

SET ROB ALTM VARIABLE ALI INDEX MARKER AT MDA

SET

CHECKLIST

= SEQUENCE

POWER-SET-TEST CONTROL KNOB

VARIABLE ALTITUDE INDEX MARKER= TBD*

OBJECTIVE: PERFORM PRE-DESCENT PROCEDURES

14.2

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO executes pre-descent operations concurrently.

PERFORMANCE LIMITS: 1. Proper sequence
 2. Proper frequencies set

ENABLING OBJECTIVES:

1. Recall that the proper UHF frequencies will have to be set in each control box manually if they are not preset channels.
2. Recall that the function selector switch may be set on either the MAIN or BOTH positions for transmissions to be made.
3. Recall that only one transmission can be made at a time because of the electrical interlocks on the ICS panel.

ANCILLARY OBJECTIVES:

1. Recall that the frequency select toggle switch must be set to the MANUAL position for manual frequency selection.

OPERATOR: P/CP

TASK ELEMENTS: 14.1.1.3
 14.1.1.4
 14.1.1.5
 14.1.1.6

14.1.1.003.00*

SET PROPER TACTICAL FREQUENCY ON UHF #2

SET

MANUAL-FREQUENCY SELECTOR-COP = TBD*

MANUAL-FREQUENCY SELECTOR-COP

MANUAL-FREQUENCY SELECTOR-COP = TBD

14.1.1.004.00*

PULL UHF #2 KNOB ON COPILOT ICS PANEL

PULL

UHF 2 TRANSFER MODE LIGHT-COP = OFF*

UHF 2 CONTROL SWITCH-COPILOT

UHF 2 TRANSFER MODE LIGHT-COP = ON

14.1.1.005.00*

SET POST STRIKE BASE TOWER FREQ ON UHF #1

SET

MANUAL-FREQUENCY SELECTOR-PIL = TBD*

MANUAL-FREQUENCY SELECTOR-PIL

MANUAL-FREQUENCY SELECTOR-PIL = TBD

14.1.1.006.00*

PULL UHF #1 KNOB ON PILOT ICS PANEL

PULL

UHF 2 TRANSFER MODE LIGHT-PIL = OFF*

UHF 2 CONTROL SWITCH-PILOT

UHF 2 TRANSFER MODE LIGHT-PIL = ON

OBJECTIVE: PERFORM PRE-DESCENT PROCEDURES

14.3

CRITICALITY: 3

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. Pilots execute pre-descent operations concurrently.

PERFORMANCE LIMITS: 1. Proper sequence.
 2. Proper switch positions.

ENABLING OBJECTIVES:

1. Recall that the steering sequence number (SSN) is a three digit number with a dash addendum number. The SSN identifier can be one of nine alpha readouts.
2. Recall that when the NAV function is selected on the IKB, it has a set of subfunctions which, in turn, consist of one or more levels of options.
3. Recall what combination of PB switches must be depressed to select the AILA option.
4. Recall that manual ALT CAL is a subfunction under the option AUX NAV.
5. Recall that when the DEST switchlight is depressed, the X-hairs will be positioned near the desired landing point or on an offset aim point depending upon whether the sequence number identifier is DOF or OAP.
6. Recall how to position the X-hairs with the tracking handle.
7. Recall that moving the toggle switch forward on the tracking handle selects narrow sector scan. The sector width is reduced to $\pm 10^\circ$ about the azimuth cursor.

ANCILLARY OBJECTIVES:

1. Recall that nine lives of data can be presented on the IKB CRT. The selected glide slope for the AILA will be included.
2. Recall that ALT CAL is a subfunction under the option CONTROL BACKUP.
3. Recall that in all modes except GND VEL, the ranges selected can be 2.5, 5, 10, 30, 80 or 200. In GND VEL, the ranges are 7.5/2.5, 15/5, 30/10, 90/30, 160/80 or 200/200. The numbers represent range sweep and display scale (diameter) in miles, respectively.

ANCILLARY OBJECTIVES: (Continued)

4. Recall that when GND VEL has been selected, the radar ground map remains stable on the display with the targets and cursors remaining at the center of the display.

OPERATOR: OSO

TASK ELEMENTS:

14.1.1.7	14.1.1.13
14.1.1.8	14.1.1.15
14.1.1.10	14.1.1.16
14.1.1.11	14.1.1.17
14.1.1.12	14.1.1.18

14.1.1.007.00*

NOTE THAT NEXT SEQ NO IS FOR DESTINATION OVERFLY (DOF)*

	CHECKLIST	= SEQUENCE
OBSERVE	NUMBER IDENTIFIER-STEERING STEERING SEQUENCE NUMBER	
	NUMBER IDENTIFIER-STEERING AND STEERING SEQUENCE NUMBER	= 'DOF' = TBD

14.1.1.008.00*

DEPRESS NAV FUNCTION SWITCH ON IKB (INTEGRATED KEYBOARD)

	FUNCTION SWITCH	= OFF
DEPRESS	FUNCTION SWITCH	
	FUNCTION SWITCH AND DISPLAY TUBE SURFACE	= ON* = TBD

14.1.1.010.00*

SELECT AILA OPTION ON IKB

	OPTION SELECT SWITCHES AND DISPLAY TUBE SURFACE	= OFF* = TBD
SELECT	OPTION SELECT SWITCHES	
	OPTION SELECT SWITCHES AND OPTION SELECT SWITCHES	= ON* = OFF

14.1.1.011.00*

CONFIRM GLIDE SLOPE ANGLE IS CORRECT ON IKB CRT READOUT

	DISPLAY TUBE SURFACE	= TBD*
CHECK	DISPLAY TUBE SURFACE	
	DISPLAY TUBE SURFACE	= TBD*

14.1.1.012.00*

DEPRESS NAV ECTN PUSHBUTTON SWITCH ON IKB

	FUNCTION SWITCH	= OFF*
DEPRESS	FUNCTION SWITCH	
	FUNCTION SWITCH	= ON
	AND DISPLAY TUBE SURFACE	= TBD

14.1.1.013.00*

SELECT ALT CAL OPTION ON IKB

	FUNCTION SWITCH	= ON*
	AND DISPLAY TUBE SURFACE	= TBD
SELECT	OPTION SELECT SWITCHES	
	DISPLAY TUBE SURFACE	= TBD*

14.1.1.015.00*

DEPRESS DEST PB ON NAV PANEL FOR AUTO X-HAIR LAY ON DEST*

	X-HAIR CURSORS	= OFF*
DEPRESS	DESTINATION X-HAIR CONTROL	
	DESTINATION X-HAIR CONTROL	= ON*
	AND CRT DISPLAY SURFACE	= TBD

14.1.1.016.00*

MAINTAIN X-HAIR ALIGNMENT ON DESIRED FLR AIM PT. AS REQUIRED

	X-HAIR CURSORS	= POSITIONED*
POSITION	ENABLE SWITCH	
	X-HAIR CURSORS	= POSITIONED*
	AND CRT DISPLAY SURFACE	= TBD

14.1.1.017.00*

SET TRACKING HANDLE TOGGLE SW TO SELECT NARROW SECTOR SCAN*

	CRT DISPLAY SURFACE	= WIDE SECT SCAN
DEPRESS	SECTOR SWITCH	
	CRT DISPLAY SURFACE	= NARROW SECT SCAN

14.1.1.018.00*

REDUCE RADAR RANGE AS REQUIRED ON RANGE SELECT CONTROL

	CRT DISPLAY SURFACE	= TBD*
SET	RANGE SWITCH-FLR	
	RANGE SWITCH-FLR	= TBD*
	AND CRT DISPLAY SURFACE	= TBD

OBJECTIVE: CONFIGURE FLIGHT STATION FOR DESCENT PROCEDURES 14.4

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Descent configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO sets local altimeter for landing at recovery site.

PERFORMANCE LIMITS: 1. Proper sequence.

ENABLING OBJECTIVES:

1. Recall that when the control stick disconnect is depressed to the second detent, the TAKE COMD light will stay green at the pilot or copilot station that had control of the AFCS.
2. Recall that both flight director control panels must be set on AILA for an automatic approach to be possible.
3. Recall that the APRCH ARM light will illuminate when the circuitry and equipment associated with the FDC/MON is ready to "fly" the selected approach mode.
4. Recall that the course set knob on the HSI sets both the course pointer (a white, airplane-shaped pointer) and the digital course readout.
5. Recall that the heading marker consists of two small squares separated by a narrow gap and is set manually with the heading set knob.
6. Recall that the local altimeter setting should be set in all altimeters when below 18,000 feet and prior to reaching the final approach fix.

ANCILLARY OBJECTIVES:

1. Recall that the localizer and glide slope information is derived from the attack radar and navigational computer.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	14.1.2.1	14.1.2.20
	14.1.2.2	14.1.2.21
	14.1.2.3	
	14.1.2.4	

14.1.2.001.00*

DEPRESS TRIGGER ON CONTROL STICK TO 2ND DETENT

	CHECKLIST	= SEQUENCE
DEPRESS	PILOT AFCS INTRPT-DISENG CNTRL	
	PILOT AFCS INTRPT-DISENG CNTRL= SECOND DETENT*	

14.1.2.002.00*

SET AILA MODE ON BOTH FLT DIR CONTROL PANELS

	APRCH ARM INDICATOR-PILOT	= 'APRCH ARM'*
	AND APRCH ARM INDICATOR-COPILOT	= 'APRCH ARM'
SET	MODE SWITCH-FLT DIR	
	MODE SWITCH-FLT DIR	= AILA
	AND APRCH ARM INDICATOR-COPILOT	= 'APRCH ARM'

14.1.2.003.00*

SET INBOUND AILA COURSE ON BOTH HSI'S USING COURSE SET KNOB

	COURSE POINTER-PILOT	= TBD*
	AND COURSE POINTER-COPILOT	= TBD
SET	COURSE SET KNOB-PILOT	
	COURSE SET KNOB-COPILOT	
	COURSE POINTER-PILOT	= TBD*
	AND COURSE POINTER-COPILOT	= TBD

14.1.2.004.00*

SET COMD HDG MARKERS TO DESIRED HEADING

	HEADING MARKER-PILOT	= TBD*
	AND HEADING MARKER-COPILOT	= TBD
SET	HEADING MARKER-PILOT	
	HEADING MARKER-COPILOT	
	HEADING MARKER-PILOT	= TBD*
	AND HEADING MARKER-COPILOT	= TBD

14.1.2.020.00*

ESTABLISH UHF COMM WITH POST STRIKE RECOVERY SITE (UHF #1)*

A-V

= TBD*

COMMUNICATE

COPILOT UHF COMM PANEL

COPILOT UHF COMM PANEL

= COMM ESTABLISHED*

14.1.2.021.00*

SET BARO-ALTIMETERS FOR LANDING AT RECOVERY SITE

COPILOT UHF COMM PANEL

= ALTIM SETTING*

SET

BARO-SET KNOB

BAROMETRIC SETTING KNOB

BAROMETER CONTROL

BARO PRESSURE COUNTER
AND IN. HG READOUT

= TBD*

= TBD

OBJECTIVE: CONFIGURE FLIGHT STATION FOR DESCENT CHECKS 14.5

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. DSO calculate landing data
 2. OSO selects appropriate FOV for the FLIR on the MFD.
 3. OSO & DSO check that restraint harnesses are secured.

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall how to compute the landing data which includes final approach speed, landing distance, etc.
2. Recall that with the nuclear consent switch in the NORM position, the weapons are in the unarmed position.
3. Recall that the optimum wing sweep position for descent may be different than the setting used for landing.
4. Recall that with the windshield power select switch in BOTH, left and right windshields and side window panels are defogged or anti-iced depending on the position of the windshield mode select switch.
5. Recall that with the ANTI-ICE switch in the AUTO position, the ice detectors are linked electronically to the anti-ice bleed valves and automatic initiation of the anti-ice cycle is provided.
6. Recall that with pitot heat on, heater elements in the CADS, total temperature probe and angle of attack sensor are thermostatically controlled.
7. Recall that with anti-skid on automatic brake control is provided by limiting the braking so that maximum braking is obtained with no tire skidding.
8. Recall that with nose wheel steering in TO/LDG, the system is armed.
9. Recall that setting the EVS knob to VV the pod is extended and command steering is to the flight vector reference line.

ENABLING OBJECTIVES: (continued)

2.

10. Recall that with IR selected on the VSD, the attitude director indicator mode is negated.
12. Recall that the restraint harnesses should be secured in preparation for landing.
13. Recall crew station check, checklist (6.2.1).

ANCILLARY OBJECTIVES:

1. Recall that with nosewheel steering in TO/LDG, the nosewheel can be moved 30 degrees left or right of center after the nosewheel is on the ground and the steering engage switch is set to ENGAGE.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	14.1.2.5	14.1.2.11
	14.1.2.6	14.1.2.12
	14.1.2.7	14.1.2.13
	14.1.2.8	14.1.2.14
	14.1.2.9	14.1.2.18
	14.1.2.10	14.1.2.19

14.1.2.005.00*

COMPUTE AND CHECK LANDING DATA

	CHECKLIST	= SEQUENCE
CALCULATE	LANDING DATA	
	LANDING DATA	= CALCULATED*
	AND CO-PILOT ICS	= ACKNOWLEDGED

14.1.2.006.00*

CONFIRM NUCLEAR CONSENT SW IS AT NORM & SW GUARD IS DOWN

	CHECKLIST	= SEQUENCE
CHECK	NUCLEAR CONSENT SWITCH	
	NUCLEAR CONSENT SWITCH	= NORM*

14.1.2.007.00*

SET WING SWEEP CONTROL HANDLE FOR DESCENT

	CHECKLIST	= SEQUENCE
SET	PILOTS WING SWEEP HANDLE	
	COPILOTS WING SWEEP HANDLE	
	WING SWEEP POSITION INDICATOR	= TBD*

14.1.2.008.00*

CHECK WINDSHIELD POWER SELECT SWITCH IS IN 'BOTH' POSITION

	CHECKLIST	= SEQUENCE
CHECK	WINDSHIELD POWER SELECT SWITCH	
	WINDSHIELD POWER SELECT SWITCH	= BOTH

14.1.2.009.00*

CHECK THAT ENGINE INLET ANTI-ICE SWITCH IS IN AUTO MODE

	CHECKLIST	= SEQUENCE
CHECK	ENGINE ANTI-ICE SWITCH	
	ENGINE ANTI-ICE SWITCH	= AUTO

14.1.2.010.00*

CHECK THAT PITOT HEAT CONTROL SWITCH IS ON

	CHECKLIST	= SEQUENCE
CHECK	PITOT HEAT CONTROL SWITCH	
	PITOT HEAT CONTROL SWITCH	= PITOT HEAT

14.1.2.011.00*

CHECK THAT ANTI-SKID SWITCH IS ON

CHECK	CHECKLIST	= SEQUENCE
	ANTI-SKID TEST SWITCH	= ON
	ANTI-SKID TEST SWITCH	= ON

14.1.2.012.00*

SET NOSE WHEEL STEERING MODE CONTROL SWITCH TO 'TO-LDG' MODE

SET	CHECKLIST	= SEQUENCE
	STEERING MODE CONTROL SWITCH	
	STEERING MODE CONTROL SWITCH	= TO-LDG

14.1.2.013.00*

SET EVS IR ROTARY SELECTION KNOBS TO 'VV'

SET	CHECKLIST	= SEQUENCE
	IR POD CONTROL	
	IR POD CONTROL	= VV*

14.1.2.014.00*

SET BOTH VSD MODE SELECT SWs TO DESIRED SENSOR (IR)

SET	CHECKLIST	= SEQUENCE
	MODE SELECT SWITCH-PILOT	
	MODE SELECT SWITCH-CUPILOT	
	MODE SELECT SWITCH-PILOT	= IR
	AND MODE SELECT SWITCH-CUPILOT	= IR

14.1.2.018.00*

PERFORM CREW STATION CHECKS*

CHECK	CHECKLIST	= SEQUENCE*
	CHECKLIST	
	CHECKLIST	= COMPLETED*
	AND FLIGHT LOG	= RECORDED

14.1.2.019.00*

CHECK THAT RESTRAINT HARNESSSES ARE CONNECTED

	CHECKLIST	= SEQUENCE
CHECK	RESTRAINT ASSY	
	RESTRAINT ASSY	= CHECKED*

OBJECTIVE: CONFIGURE FLIGHT STATION FOR DESCENT PROCEDURES 14.6

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS:

CONCURRENT TASKS:

INTERACTION TASKS:

1. P/CP and DSO checks performed concurrently.
2. CP computes and checks landing data.
3. P confirms nuclear consent switch.
4. P/CP set wing sweep.
5. P checks windshield power switch.
6. CP checks engine anti-ice, pilot heat, anti-skid, nosewheel steering and EVS IR rotary knob.
7. P/CP set VSD mode switch to IR.
8. P/CP check restraint harnesses.

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that the EVS field of view mode is active only if the front station has relinquished the caged command for the FLIR.
2. Recall that the restraint harnesses should be secured in preparation for landing.

ANCILLARY OBJECTIVES:

1. Recall that the NFOV mode is generally not selected until the runway has been positively identified and the A/V is close in to the landing field.

OPERATOR: OSO

TASK ELEMENTS: 14.1.2.15
 14.1.2.19

14.1.2.015.00*

DEPRESS EVS FCV AS DESIRED

DEPRESS

CHECKLIST

= SEQUENCE

IR NARROW-FIELD-OF-VIEW

IR NARROW-FIELD-OF-VIEW

= 'ON'*

14.1.2.019.00*

CHECK THAT RESTRAINT HARNESSSES ARE CONNECTED

CHECK

CHECKLIST

= SEQUENCE

RESTRAINT ASSY

RESTRAINT ASSY

= CHECKED*

OBJECTIVE: EXECUTE DESCENT

14.7

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise Configuration

CONCURRENT TASKS:

1. Monitor AGL when below 5,000 ft AGL.
2. Monitor TFR to ensure adequate clearance above terrain.
3. Calculate fuel distribution for optimum c.g.

INTERACTION TASKS:

1. OSO and DSO accomplish altitude calls at 5,000 ft intervals - P acknowledge.
2. OSO monitor heading indicator.
3. OSO monitor FLR for obstructions.

PERFORMANCE LIMITS:

1. Airspeed - TBD (\pm Kts)
2. Altitude - TBD (\pm ft)
3. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Calculate power level setting for descent and for level-off after descent.
2. Calculate altitude lead to initiate pitch attitude change.
3. Predict necessary pitch change for level-off.
4. Calculate optimum wing sweep angle for level-off.
5. Adjust power level to maintain cruise airspeed after level-off.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS:

- 14.2.1.1
- 14.2.1.2
- 14.2.1.3
- 14.2.1.6

14.2.1.001.00*

POSITION THROTTLES TO TBD POWER SETTING FOR DESCENT

	POWER LEVEL INDICATOR	= TBD*
POSITION	PRIMARY THROTTLE LEVERS-PI	
	POWER LEVEL INDICATOR	= TBD

14.2.1.002.00*

MANIPULATE FLT CONTROLS AND TRIM TO OBTAIN DESCENT ATTITUDE

	PITCH SCALE-PILOT	= TBD*
TRACK	PILOTS FLIGHT CONTROL STICK	
	PILOTS RUDDER PEDALS	
	PLT TRIM SW (ON CONTR STICK)	
	PITCH SCALE-PILOT	= TBD*
	AND PILOTS FLIGHT CONTROL STICK	= NEUTRAL PRESSURE

14.2.1.003.00*

MONITOR ATTITUDE, AIRSPEED, AND HEADING AS REQUIRED

	ALTITUDE-VERTICAL VELOCITY IND > TBD*	
MONITOR-VISUAL	VERTICAL SITUATION DISPLAY	
	AIRSPEED-MACH NUMBER INDICATOR	
	ALTITUDE-VERTICAL VELOCITY IND	
	VERTICAL SITUATION DISPLAY	= TBD*
	AND ALTITUDE-VERTICAL VELOCITY IND	= TBD

14.2.1.006.00*

MANIPULATE CONTROL STICK TO INITIATE LEVEL OFF ATTITUDE

	AVVI-PILOT	> TBD*
TRACK	PILOTS FLIGHT CONTROL STICK	
	VSD-PILOT	= TBD*
	AND HEADING MARKER-PILOT	= TBD

OBJECTIVE: CROSSCHECK ALTIMETERS

14.8

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Descent configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO crosschecks altimeter during the descent.
2. DSO crosschecks altimeter during the descent.

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall how to read the gross and fine altitude scales on the tape altitude display.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 14.2.1.4

14.2.1.004.00*

ACCOMPLISH ALTITUDE CALLS AT 5000 FOOT ALTITUDE INTERVALS*

	CHECKLIST	= SEQUENCE
COMMUNICATE	ICS	
	PILOT ICS	= ACKNOWLEDGED

OBJECTIVE: PERFORM DESCENT PROCEDURES

14.9

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Descent configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. Pilot's crosscheck altimeter throughout the descent.

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that with the local altimeter set in the airspeed/altitude indicator, the digital altitude readout represents elevation above mean sea level.
2. Recall that the #2 needle can show the bearing to a NAV checkpoint as selected by the ACU or the bearing to a UHF/ADF station.
3. Recall how the radar presentation of a runway appears on the FLR CRT.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 14.2.1.4
14.2.1.5

14.2.1.004.00*

ACCOMPLISH ALTITUDE CALLS AT 5000 FOOT ALTITUDE INTERVALS*

	CHECKLIST	= SEQUENCE
COMMUNICATE	ICS	
	PILOT ICS	= ACKNOWLEDGED

14.2.1.005.00*

MONITOR AIR VEHICLE POSITION ON DDHI AND FLR

	ALTITUDE READOUT	= TBD*
MONITOR-VISUAL	CRT DISPLAY SURFACE	
	BEARING-DISTANCE-HEADING IND	
	CRT DISPLAY SURFACE	= TBD*
	AND BEARING-DISTANCE-HEADING IND	= TBD

OBJECTIVE: CONFIGURE FOR LANDING APPROACH

14.10

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Cruise configuration
2. Wing sweep set at TBD degrees after penetration.

CONCURRENT TASKS: 1. Monitor heading to maintain correct intercept angle for final approach.

INTERACTION TASKS: 1. OSO performs low altitude calibration.
2. OSO monitors altitude > FAF altitude.
3. OSO monitors course so it will intercept final approach course.

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm Kts)
2. Altitude - TBD (\pm ft)
3. Heading - TBD (\pm degrees)

ENABLING OBJECTIVES:

1. Calculate altitude lead to initiate pitch attitude change for FAF altitude level-off.
2. Calculate power level setting to maintain TBD airspeed at FAF altitude.
3. Recall that with the flight director switch in ALT REF the pitch steering commands on the VSD and SADI represent displacements from the pressure altitude at which the A/V was flying when ALT REF was selected.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 14.2.2.1
14.2.2.2
14.2.2.3

14.2.2.001.00*

MANIPULATE FLT CONTROLS & TRIM TO LEVEL OFF AT INIT APP ALT

	AVVI-PILOT	= TBD*
TRACK	PILOTS FLIGHT CONTROL STICK PLT TRIM SW (ON CONTR STICK)	
	PITCH SCALE-PILOT	= TBD*
	AND AMI-PILOT	= TBD

14.2.2.002.00*

ADJUST THROTTLES TO ACQUIRE DESIRED AIRSPEED

	AVVI-PILOT	= TBD*
POSITION	PRIMARY THROTTLE LEVERS-PI	
	AMI-PILOT	= TBD*

14.2.2.003.00*

SET FLIGHT DIRECTOR TOGGLE SWITCHES (2) TO 'ALT REF'

	AVVI-PILOT	= TBD*
	AND PITCH SCALE-PILOT	= TBD
SET	ALT REF-TER FLW SW-PILOT ALT REF-TER FLW SW-COPILOT	
	ALT REF-TER FLW SW-PILOT AND ALT REF-TER FLW SW-COPILOT	= ALT REF = ALT REF

OBJECTIVE: VERIFY MAGNETIC VARIATION

14.11

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Descent configuration
 2. Levelled off at initial landing approach altitude

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Mag. variation obtained

ENABLING OBJECTIVES:

1. Recall that the MAG VAR is a subfunction under the option AUX NAV.
2. Recall that the NAV function must be selected on the integrated keyboard before the MAG VAR option can be selected.

ANCILLARY TASKS:

OPERATOR: OSO

TASK ELEMENTS: 14.2.2.5

14.2.2.005.00*

VERIFY MAGNETIC VARIATION VIA IKB

OPTION SELECT SWITCHES = OFF*
AND DISPLAY TUBE SURFACE = TBD

SELECT

OPTION SELECT SWITCHES

OPTION SELECT SWITCHES = ON*
AND DISPLAY TUBE SURFACE = TBD

MISSION SEGMENT 15

OBJECTIVE: PERFORM BEFORE LANDING CHECKS

15.1

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Landing configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO verify correct AILA course as selected

PERFORMANCE LIMITS: 1. Proper sequence
2. Proper AILA course selected

ENABLING OBJECTIVES:

1. Recall that the wing sweep handles are mechanically interconnected and track each other over the complete range of operation.
2. Recall that the landing gear is lowered by pushing a small spring-loaded lever and then applying a downward force.
3. Recall that movement of the FLAP/SLAT handle 10 degrees to the gate detent will extend the slats and leave the flaps full up.
4. Recall that to by-pass the gate detent, a small finger-operated lever on the control handle must be raised.
5. Recall that movement of the FLAP/SLAT control handle off of the gate detent provides flap extension proportional to handle position.
6. Recall that the flap position indicator ranges from UP to full DOWN which corresponds to zero and 40 degrees of flap travel.
7. Recall that the landing/taxi light control switch must be positioned up for landing.
8. Recall that the AILA course should be shown in the right-hand digital readout on the HSI and also by the white, airplane shaped pointer that rotates around the inside edge of the compass card scale.

ANCILLARY OBJECTIVES:

2.

1. Recall that the wing sweep handles operate with a sliding friction force to prevent inadvertent movements.
2. Recall that the down position of the landing gear handle is heavily detented but not locked.
3. Recall that the DN position of the landing gear handle initiates (via EMUX) the electrical commands to the hydraulic system to open the gear doors, unlock, and extend and lock the gear in the down position and close main gear doors.
4. Recall that the red lights in the landing gear handle will illuminate when the gear is in transit. They will go out as soon as the landing gear is locked. If not out within 15 seconds or within 30 seconds in cold weather, a landing gear malfunction is indicated.
5. Recall that three green advisory lights illuminate when each landing gear is down and locked.
6. Recall that slats can be extended and retracted at any wing sweep.
7. Recall that the barberpole on the slats position indicator is displayed when the slats are in transit or if there is a malfunction in the slat indicating system.
8. Recall that the flap position indicator gradations are provided at each one-quarter position.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	15.1.1.1	15.1.1.6
	15.1.1.2	15.1.1.7
	15.1.1.3	15.1.1.8
	15.1.1.4	15.1.1.9
	15.1.1.5	

15.1.1.001.00*

REQUEST CP READ LANDING CHECKLIST*

	AVVI-PILOT	= TBD*
COMMUNICATE	PILOT ICS	
	CO-PILOT ICS	= ACKNOWLEDGED

15.1.1.002.00*

SET WING SWEEP CONTROL TO 'TBD' FOR LANDING*

	CHECKLIST	= SEQUENCE
POSITION	PILOT'S WING SWEEP HANDLE	
	WING SWEEP POSITION INDICATOR	= TBD

15.1.1.003.00*

POSITION LANDING GEAR HANDLE TO 'DOWN'*

	CHECKLIST	= SEQUENCE
	AND AVVI-PILOT	= TBD
POSITION	PRIMARY LANDING GEAR CONTROL	
	PRIMARY LANDING GEAR CONTROL	= DN

15.1.1.004.00*

MONITOR LANDING GEAR LIGHTS FOR POSITIVE DOWN AND LOCKED

	GEAR WARNING LIGHT	= OFF
MONITOR-VISUAL	NOSE GEAR ADVISORY LIGHT	
	LEFT GEAR ADVISORY LIGHT	
	RIGHT GEAR ADVISORY LIGHT	
	NOSE GEAR ADVISORY LIGHT	= 'NOSE'
	AND RIGHT GEAR ADVISORY LIGHT	= 'R'

15.1.1.005.00*

EXTEND SLATS BY POSITIONING HANDLE TO 1ST DETENT*

	CHECKLIST	= SEQUENCE
EXTEND	FLAP-SLAT CONTROL HANDLE	
	FLAP-SLAT CONTROL HANDLE	= SLAT FXD*
	AND SLATS POSITION INDICATOR	= 'EXD'

15.1.1.006.00*

EXTEND FLAPS BY RELEASING LOCK LEVER UNDER HANDLE TOP*

	CHECKLIST	= SEQUENCE
EXTEND	FLAP-SLAT CONTROL HANDLE	
	FLAP-SLAT CONTROL HANDLE	= TBD*
	AND FLAP POSITION INDICATOR	= TBD

15.1.1.007.00*

VERIFY FLAPS AND SLATS POSITION INDICATORS

CHECK

FLAP-SLAT CONTROL HANDLE = T8D*
FLAP POSITION INDICATOR
SLATS POSITION INDICATOR
FLAP POSITION INDICATOR = T8D
AND SLATS POSITION INDICATOR = 'EXD'

15.1.1.008.00*

SET LANDING-TAXI LIGHT CONTROL SWITCH TO 'TO-LDG'

SET

CHECKLIST = SEQUENCE
LANDING/TAXI LIGHT CONTROL SW
LANDING/TAXI LIGHT CONTROL SW = TO-LDG

15.1.1.009.00*

VERIFY CORRECT AILA COURSE IS SELECTED

CHECK

CHECKLIST = SEQUENCE
DIGITAL READOUT-PILOT
DIGITAL READOUT-COPILOT
CRT DISPLAY SURFACE
PILOT ICS = AILA CRSE CHKO
AND USD ICS = AILA CRSE CHKO

OBJECTIVE: PERFORM PRE-AILA OPERATIONS

15.2

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Landing configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO verifies proper X-hair placement on desired TD point.
2. OSO monitors flight instruments for the AILA.

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the approximate power level setting is to maintain the approach airspeed/AOA.
2. Recall that in the landing approach with AUTO THRO selected, the AOA hold mode controls engine thrust to maintain lift margin to a value computed by the AOA computer.
3. Recall how to compute the final approach airspeed for different gross weights.
4. Recall that the approach airspeed set in the AMI should be the approach airspeed for the specific gross weight.
5. Recall that the digital readout in the upper right-hand corner of the VSD gives radar altitude to the nearest 10 feet when above 100 feet AGL and to 2 feet when below 100 feet.
6. Recall that airspeed will be displayed in the upper left-hand corner of the VSD.
7. Recall that the letters AILA will be shown in the lower right-hand corner of the VSD.

ANCILLARY OBJECTIVES:

1. Recall that the AUTO THROT can be selected on the AFCS prior to the engage mode being selected.
2. Recall that the ENGAGE mode must be selected prior to selecting the FLT DIR or ALT hold modes.

ANCILLARY OBJECTIVES: (Continued)

3. Recall that the basic AFCS mode of flight path hold in the pitch axis and altitude hold in the roll axis is operative when ENGAGE is in the green.
4. Recall that in the ENGAGE mode, control stick steering is available and .25 inch stick displacement will set in a new reference.
5. Recall that FLT DIR must be selected before coupling with the AILA can occur.
6. Recall that when ALT HOLD is selected the altitude at the time of selection will be maintained.
7. Recall that both command heading markers should be set at the inbound heading for a straight-in approach or should be set at a prescribed intercept angle, e.g., 30 degrees.
8. Recall that the course deviation bar (CDB) will show a full scale deflection prior to intercepting the final approach course.
9. Recall that in a no-wind or headwind condition the heading marker and the course pointer should be aligned. For a crosswind condition the heading pointer should be displaced to the upwind side of the course.
10. Recall that the unit AOA shown on the AMI should be a constant regardless of the gross weight. It will however vary with the wing sweep angle and the flap/slat configuration.
11. Recall that the rate of descent will vary with glideslope angle, airspeed and head- or tail-wind component.
12. Recall that steering command information is displayed as fly-to commands. It will be centered over the fixed aircraft symbol when the A/V is on course and glide path.
13. Recall that the ILS symbol will show the localizer and glideslope errors. One inch of vertical movement indicates 1/2 deg. glideslope movement and one inch of horizontal movement represents 1-1/4 deg. of localizer error.
14. Recall that the low-altitude warning light on the radar altimeter will come on when the air vehicle descends below a preset value.
15. Recall that the moving pointer of the radar altimeter indicates current altitude between zero and 5,000 feet.
16. Recall that the variable altitude index marker should be set to the minimum decision height for the approach.
17. Recall that depressing the AFCS interrupt switch to the first detent permits changing the reference altitude.
18. Recall that radar altimeter pointer will go behind the masked portion of the instrument when unreliable information is received.

OPERATOR: P/CP

TASK ELEMENTS: 15.1.1.10
15.1.1.11
15.1.1.12
15.1.2.2
15.1.2.3
15.1.2.3.1
15.1.2.3.2
15.1.2.3.3

15.1.1.010.00*

POSITION THROTTLES TO OBTAIN APPROACH AIRSPEED-ADA

	AIR-VEHICLE	= LANDING CONFIG
POSITION	PRIMARY THROTTLE LEVERS-PI	
	POWER LEVEL INDICATOR	= TBD*
	AND ADA INDICATOR-PILOT	= TBD

15.1.1.011.00*

DEPRESS AFCS 'AUTO THROT' MODE ON AFCS MODE SELECT PANEL

	ADA INDICATOR-PILOT	= TBD*
DEPRESS	PILOTS AUTO THROT PUSHBUTTON	
	PILOTS AUTO THROT PUSHBUTTON	= 'AUTO-THROT'-C

15.1.1.012.00*

DEPRESS AFCS 'ENGAGE, FLT DIR, & ALT HOLD' MODES ON AFCS

	AIR-VEHICLE	=AUTO APPROACH*
DEPRESS	PILOTS ENGAGE PUSHBUTTON	
	PILOTS FLT DIR PUSHBUTTON	
	PLTS ALTITUDE HOLD PUSHBUTTON	
	PILOTS ENGAGE PUSHBUTTON	= 'ENGAGE'-G
	AND PLTS ALTITUDE HOLD PUSHBUTTON	= 'ALT'-G

VERIFY AUTO-QUANT AND HOLD MODES FOR CENTER AIRCRAFT INSTRUMENTS

	AIR-VEHICLE	=AUTO APPROACH*
CHECK	HEADING MARKER-PILOT	
	HEADING MARKER-COPILOT	
	HEADING MARKER-PILOT	= TBD*
	AND HEADING MARKER-COPILOT	= TBD

15.1.2.003.00*

MONITOR FLIGHT & ENGINE INSTRUMENTS FOR AILA

15.1.2.003.01*

MONITOR FLIGHT INSTRUMENTS FOR AILA

	AIR-VEHICLE	= AUTO APPROACH
MONITOR-VISUAL	HORIZONTAL SITUATION INDICATOR	
	AIRSPEED-MACH NUMBER INDICATOR	
	ALTITUDE-VERTICAL VELOCITY IND	
	HORIZONTAL SITUATION INDICATOR	= TBD
	AND ALTITUDE-VERTICAL VELOCITY IND	= TBD

15.1.2.003.02*

MONITOR FLIGHT INSTRUMENTS FOR AILA

	AIR-VEHICLE	= AUTO APPROACH
MONITOR-VISUAL	CRT TUBE DISPLAY-PILOT	
	CRT TUBE DISPLAY-COPILOT	
	CRT TUBE DISPLAY-PILOT	= TBD*
	AND CRT TUBE DISPLAY-COPILOT	= TBD

15.1.2.003.03*

MONITOR FLIGHT & ENGINE INSTRUMENTS FOR AILA

	AIR-VEHICLE	= AUTO APPROACH
MONITOR-VISUAL	RADAR ALTIMETER INDICATOR	
	STANDBY ALTIMETER	
	POWER LEVEL INDICATOR	
	RADAR ALTIMETER INDICATOR	= TBD
	AND POWER LEVEL INDICATOR	= TBD

OBJECTIVE: PERFORM PRE-AILA OPERATIONS

15.3

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Landing Configuration

CONCURRENT TASKS:

INTERACTIONS TASKS: 1. DSO monitors flight and engine instruments for AILA
 2. Pilot verifies proper X-hair placement

PERFORMANCE LIMITS: 1. X-hair cursors - TBD (+ ft)

ENABLING OBJECTIVES:

1. Recall that the FLR's X-hairs should be displaced TBD feet from the runway threshold to preclude the A/V touching down short of the runway.
2. Recall that the #2 needle of the BDHI can represent the bearing to the touchdown point if it is designated as a NAV check point in the ACU.
3. Recall that the mileage window of the BDHI displays distance to the NAV point, which can be the touchdown point, depending upon the position of the BRG switch on the Instrument Select Mode Panel at the front section.
4. Recall that the TAS/CAS switch should be set in the CAS switch position throughout the approach. The airspeed readout should correlate directly with the airspeed at the front station.

ANCILLARY TASKS:

1. Recall that the X-hairs may be positioned on an offset aiming point but the steering information displayed to the pilot will direct him to the runway.
2. Recall that the barometric altimeter setting should be set to the local setting or as determined from a radar altimeter fix over a checkpoint with a known elevation.

OPERATOR: OSO

TASK ELEMENTS: 15.1.2.1
 15.1.2.3.4

15.1.2.001.00*

VERIFY PROPER X-HAIRS PLACEMENT ON DESIRED TOUCHDOWN POINT*

	AIR-VEHICLE	= AUTO APPROACH*
CHECK	X-HAIR CURSORS	
	X-HAIR CURSORS	= POSITIONED
	AND PILOT ICS	= ACKNOWLEDGED

15.1.2.003.04*

MONITOR FLIGHT INSTRUMENTS FOR AILA

	AIR-VEHICLE	= AUTO APPROACH
MONITOR-VISUAL	BEARING-DISTANCE-HEADING IND	
	AIRSPED-ALTITUDE INDICATOR	
	BEARING-DISTANCE-HEADING IND	= TBD
	AND AIRSPED-ALTITUDE INDICATOR	= TBD

OBJECTIVE: PERFORM AUTOMATIC AILA

15.4

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Landing configuration
 2. Pre-AILA operations complete

CONCURRENT TASKS: Monitor outside the A/V for runway environment.

INTERACTIONS:

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that the CDI and steering cross will not be centered prior to localizer intercept because of the necessary lead provided by the computer.
2. Recall that engagement of the automatic approach mode in the roll axis occurs at localizer capture - localizer light comes on and approach arm light goes out.
3. Recall that engagement of the automatic approach mode in the pitch axis occurs at glide slope capture.

ANCILLARY OBJECTIVES:

1. Recall that prior to glide slope capture, the ILS symbol box will be high above the on-course position and will gradually move downward until it centers over the fixed aircraft symbol at the final approach fix point.
2. Recall that the steering command symbol will be centered in the ILS symbol box when the A/V is stabilized in the descent.

OPERATOR: P/CP

TASK ELEMENTS: 15.1.2.4 15.1.2.8
 15.1.2.5 15.1.2.9
 15.1.2.6
 15.1.2.7

15.1.2.004.00*

MONITOR A-V ROLL MANEUVER TO ACQUIRE FINAL APPR LOC COURSE

	ROLL POINTER-PILOT	= TBD*
MONITOR-VISUAL	COURSE DEVIATION BAR-PILOT STEERING COMMAND SYMBOL-PIL	
	COURSE DEVIATION BAR-PILOT AND STEERING COMMAND SYMBOL-PIL	= CENTERED* = CENTERED

15.1.2.005.00*

MONITOR LOC ANNUNCIATOR FOR LOCALIZER CAPTURE SIGNAL

	COURSE DEVIATION BAR-PILOT AND STEERING COMMAND SYMBOL-PIL	= TBD* = TBD
MONITOR-VISUAL	LOC LIGHT-PILOT LOC LIGHT-COPILOT	
	LOC LIGHT-PILOT AND LOC LIGHT-COPILOT	= 'LOC'* = 'LOC'

15.1.2.006.00*

MONITOR VSD GLIDE SLOPE RAW DATA SCALE ERROR

	ILS SYMBOL-PILOT AND ILS SYMBOL-COPILOT	=TBD* =TBD
MONITOR-VISUAL	ILS SYMBOL-PILOT ILS SYMBOL-COPILOT	
	ILS SYMBOL-PILOT AND ILS SYMBOL-COPILOT	= CENTERED* = CENTERED

15.1.2.007.00*

MONITOR GLIDE SLOPE ANNUNCIATOR FOR GLIDE SLOPE CAPTURE SIGN

	ILS SYMBOL-PILOT AND ILS SYMBOL-COPILOT	= CENTERED* = CENTERED
MONITOR-VISUAL	GLIDE SLOPE LIGHT-PILOT GLIDE SLOPE LIGHT-COPILOT	
	GLIDE SLOPE LIGHT-PILOT AND GLIDE SLOPE LIGHT-COPILOT	= 'GLIDE SLOPE'* = 'GLIDE SLOPE'

15.1.2.008.00*

MONITOR AIR VEHICLE INITIATION OF DESCENT

	GLIDE SLOPE LIGHT-PILOT	= 'GLIDE SLOPE'*
	AND GLIDE SLOPE LIGHT-COPILOT	= 'GLIDE SLOPE'
MONITOR-VISUAL	AVVI-PILOT	
	AVVI-COPILOT	
	AVVI-PILOT	= TBD*
	AND AVVI-COPILOT	= TBD

15.1.2.009.00*

REQUEST LANDING CLEARANCE FROM POST-STRIKE RECOVERY SITE

	STEERING COMMAND SYMBOL-COP	= CENTERED*
	AND ILS SYMBOL-COPILOT	= CENTERED
	AND AVVI-COPILOT	= TBD
COMMUNICATE	COPILOTS UHF	
	COPILOTS VHF	= CLEARED TO LAND*

OBJECTIVE: ACQUIRE RUNWAY VISUALLY

15.5

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Landing configuration

CONCURRENT TASKS: 1. Monitor VSD for proper indications of AILA

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Missed approach or landing decision.

ENABLING OBJECTIVES:

1. Recall that the MIN DECN HGT light will illuminate when the absolute altitude of the A/V is at or below the minimum altitude set into the radar altimeter.

ANCILLARY OBJECTIVES:

1. Recall that the automatic approach mode can be disengaged after localizer and/or glide slope capture through the control stick steering function. Therefore it is not necessary to depress the pitch disconnect trigger switch to the second detent.
2. Recall that the RGA (Rotate Go-Around) button should be depressed at the minimum decision height if the runway environment is not acquired.

OPERATOR: P/CP

TASK ELEMENTS: 15.2.1.1
15.2.1.2

15.2.1.001.00*

NOTIFY PILOT THAT RUNWAY IS OR IS NOT VISIBLE*

MIN DECN HGT LIGHT-PILOT = 'MIN DECN HGT'*
AND FLASHBLINDNESS WINDOW-RIGHT = TBD

COMMUNICATE

CO-PILOT ICS

PILOT ICS

= RUNWAY IN SIGHT

15.2.1.002.00*

DEPRESS AFCS PITCH DISCONNECT TRIG SW ON STICK TO 2ND DEIENT

A-V

= AUTO APPROACH*

DEPRESS

PILOT AFCS INTRPT-DISENG CNTRL

PILOTS ENGAGE PUSHBUTTON = 'ENGAGE'-W*
AND PILOTS AUTO THROT PUSHBUTTON = 'AUTO-THROT'-W

OBJECTIVE: PERFORM TOUCHDOWN

15.6

CRITICALITY: 3

DIFFICULTY: 3

INITIAL CONDITIONS: 1. Landing configuration

CONCURRENT TASKS: 1. Correct for crosswind change from crab technique to partial crab/wing low slip technique to maintain runway alignment.

INTERACTION TASKS: 1. OSO and DSO monitor A/V position relative to optimum touchdown point.
2. OSO and DSO monitor airspeed to ensure that it is >minimum touchdown speed.

PERFORMANCE LIMITS: 1. Airspeed - TBD (\pm Kts)
2. Sink Rate - TBD (\pm ft/sec)
3. Flare altitude - TBD (\pm ft)

ENABLING OBJECTIVES:

1. Recall how to judge flare-initiation altitude (too low will cause excessive sink rate at touchdown; too high will cause rapid airspeed bleed off and excessive sink rate at touchdown or stair step flare to touchdown).
2. Recall how much power should be reduced in the flare depending upon the crosswinds or gusty wind conditions and whether the flare was performed too low or too high.
3. Recall how much power should be left on until the main wheels contact the runway.

ANCILLARY OBJECTIVES:

OPERATOR: P/CP

TASK ELEMENTS: 15.2.2.1

15.2.2.001.00*

MANIPULATE FLIGHT CONTROLS & THROTTLES TO ESTABLISH FLARE*

AIR-VEHICLE
AND AVVI-PILOT

→=AUTO APPROACH
< MDH

OBJECTIVE: DECELERATE ON LANDING ROLL

15.7

CRITICALITY: 3

DIFFICULTY: 2

INITIAL CONDITIONS: 1. Landing configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Runway alignment - \pm TBD feet.

ENABLING OBJECTIVES:

1. Recall that all four spoiler segments on each wing are deflected full up when the speed brake control on the #4 throttle is set to OUT and the A/V is on the ground.
2. Recall that nosewheel steering should be engaged immediately after the nosewheel is on the runway.
3. Recall that the READY/STEER annunciator light will illuminate when nose gear steering is engaged, the nose gear load switch is made, and hydraulic power is available for steering.

ANCILLARY OBJECTIVES:

1. Recall that the nosewheel should be lowered as soon as possible after touchdown.
2. Recall that in the TO/LDG position, nosewheel steering is electronically controlled with nosewheel steering proportional to rudder pedal movement and steering angles compatible with landing speed.
3. Recall that a combination of aileron, rudder, differential braking and nosewheel steering can be used to correct for a crosswind condition.

OPERATOR: P/CP

TASK ELEMENTS: 15.2.3.1
 15.2.3.2
 15.2.3.3
 15.2.3.4
 15.2.3.5
 15.2.3.6

15.2.3.001.00*

SET SPEED BRAKE CONTROL ON #4 THROTTLE TO 'OUT'

AIR-VEHICLE = ON RUNWAY*
SET PILOTS SPD BRK CONTR #4 THROT
PILOTS SPD BRK CONTR #4 THROT = OUT

15.2.3.002.00*

MANEUVER CONTROL STICK AND RUDDERS TO LOWER NOSEWHEEL TO R-W

AMI-PILOT = TRD*
TRACK PILOTS FLIGHT CONTROL STICK
PILOTS RUDDER PEDALS
AIR-VEHICLE = NOSEWHEEL ON R-W*

15.2.3.003.00*

DEPRESS RUDDER PEDALS TO APPLY WHEEL BRAKES

AMI-PILOT = TRD*
DEPRESS PILOTS RUDDER PEDALS
PROPRIOCEPTION = LONGIT DECEL*

15.2.3.004.00*

SET NWS SWITCH TO 'TO-LDG' TO ENGAGE NOSEWHEEL STEERING

AMI-PILOT = TRD*
SET STEERING MODE CONTROL SWITCH
STEERING MODE CONTROL SWITCH = TO-LDG*
AND READY-NWS ADVISORY LIGHT = 'READY-NWS'

15.2.3.005.00*

MAINTAIN DIRECTIONAL CONTROL USING CONTROL STICK & RUD PEDS

AIR-VEHICLE = ALIGNED ON RNWY*
TRACK PILOTS FLIGHT CONTROL STICK
PILOTS RUDDER PEDALS
AIR-VEHICLE = ALIGNED ON RNWY*

15.2.3.006.00*

POSITION SPEED BRAKES SWITCH TO 'IN'

CHECKLIST = SEQUENCE
SET PILOTS SPD BRK CONTR #4 THROT
PILOTS SPD BRK CONTR #4 THROT = IN*
AND SPOILER INDICATORS = NO FLAG

OBJECTIVE: AFTER LANDING CHECKS

15.8

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS:

CONCURRENT TASKS:

INTERACTION TASKS:

1. OSO sets FLR radar function switch to standby.
2. OSO sets doppler radar power switch to off.

PERFORMANCE LIMITS:

1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the landing/taxi light control switch must be positioned down for taxi.
2. Recall that slats will always be used for takeoff and that full flaps will probably be used also. Therefore, the FLAP/SLAT control handle may be left in the full down position used for landing.
3. Recall that by setting the radar altimeter rotary mode control switch to OFF, power to both radar altimeters is off.
4. Recall that by moving the steer mode control switch to TAXI, the steering authority is increased from + 30° of center to 75° left or right of center. However, if the slats are retracted, the authority is reduced to 15 degrees.

ANCILLARY OBJECTIVES:

1. Recall that if the slats are retracted and the steer mode control switch is in TAXI, the steering authority is reduced to 15 degrees.

OPERATOR: P/CP

TASK ELEMENTS:

15.3.1.1	15.3.1.4
15.3.1.2	15.3.1.6
15.3.1.3	

15.3.1.001.00*

SET STEER MODE CONTROL SWITCH TO 'TAXI'

SET

AIR-VEHICLE

= ON TAXI STRIP*

STEERING MODE CONTROL SWITCH

STEERING MODE CONTROL SWITCH = TAXI

15.3.1.002.00*

DEPRESS MIC SW ON THROTTLES TO CONTACT GROUND CNTRL FOR TAXI

DEPRESS

A-V

= ON TAXIWAY*

PUSH-TO-TALK SWITCH-PILOT

PILOT UHF COMM PANEL = TAXI INSTRUCTION

15.3.1.003.00*

POSITION LANDING LIGHT SWITCH TO 'TAXI-OFF' AS NECESSARY

SET

CHECKLIST

= SEQUENCE*

LANDING/TAXI LIGHT CONTROL SW

LANDING/TAXI LIGHT CONTROL SW = TAXI
OR LANDING/TAXI LIGHT CONTROL SW = OFF

15.3.1.004.00*

POSITION FLAP HANDLE TO 'ID' SETTING

SET

CHECKLIST

= SEQUENCE

FLAP-SLAT CONTROL HANDLE

FLAP-SLAT CONTROL HANDLE = TBD*

15.3.1.006.00*

SET RADAR ALTIMETER ROTARY MODE CONTROL TO 'OFF'

SET

CHECKLIST

= SEQUENCE

CHANNEL SELECTOR SWITCH

CHANNEL SELECTOR SWITCH = OFF

OBJECTIVE: AFTER LANDING CHECKS

15.9

CRITICALITY: 5

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Landing configuration

CONCURRENT TASKS: 1. P/CP perform checks concurrently.

INTERACTION TASKS:

1. Pilot contacts ground control, sets radar altimeter to off and steer mode control to taxi position.
2. C/P sets landing light switch to off.
3. C/P sets flaps to take-off setting.

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that when the FLR mode switch is set to STANDBY, all system filaments and protective time delays are energized.

ANCILLARY OBJECTIVES:

1. Recall that with the FLR mode switch in STANDBY, the antenna is held in an azimuth limit, zero pitch and maximum up in tilt.
2. Recall that the doppler radar power switch is the only hard wired power control on the auxiliary panel. Therefore, neither the left or right EMUX has control over the doppler radar power switch.

OPERATOR: OSO

TASK ELEMENTS: 15.3.1.5
15.3.1.7

15.3.1.005.00*

POSITION FLR RADAR FUNCTION SWITCH TO 'STANDBY'

	CHECKLIST	= SEQUENCE
SET	MODE SWITCH-RADAR SET-2	
	MODE SWITCH-RADAR SET-2	= STBY

15.3.1.007.00*

POSITION DOPPLER RADAR POWER SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	DOPPLER CONTROL	
	DOPPLER CONTROL	= OFF

OBJECTIVE: TAXI AND PARK AIR VEHICLE

15.10

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS:

1. Landing configuration
2. Throttle-Idle
3. Nosewheel steering-Engaged
4. Flaps - T.O. setting
5. Steering mode control - taxi

CONCURRENT TASKS:

1. Maintain sufficient obstacle clearance
2. Communicate on UHF for ground taxi instructions

PERFORMANCE LIMITS: 1. Directional alignment - TBD (\pm ft) from taxiway centerline

ENABLING OBJECTIVES:

1. Recall approximate power level required for taxi.
2. Recall that wings may be swept aft to ensure obstruction clearance.
3. Recall that with NWS switch in TAXI the nosewheel can be pivoted 75° each side of centerline. In TO/LDG position, angle is reduced to 30 degrees left or right of center.

ANCILLARY OBJECTIVES:

1. Recall that when the slats are retracted, rudder pedal travel is mechanically limited and NWS is limited to 15 degrees at TAXI and 6 degrees with the switch at TO/LDG.
2. Recall that the parking attendant may be unfamiliar with the ground turning capability of the B-1 and may not give proper signals. The B-1 should be taxied at a very slow speed on the parking ramp to preclude an accident.

OPERATOR: P/CP

TASK ELEMENTS:

- 15.3.1.8
- 15.3.1.9
- 15.3.2.2
- 15.3.2.3
- 15.3.2.4
- 15.3.2.5

15.3.1.008.00*

MANIPULATE RUDDER PEDALS TO TURN ONTO TAXI STRIP

STEERING MODE CONTROL SWITCH = TAXI
AND PIL STEER ENG-DISENG SWITCH = ENGAGE

DEPRESS

PILOTS RUDDER PEDALS
TOE BRAKES

AIR-VEHICLE = TAXIED*

15.3.1.009.00*

MODULATE THROTTLES AS REQUIRED TO TAXI

ADJUST

AIR-VEHICLE = ON TAXI SPEED*

PRIMARY THROTTLE LEVERS-P1

AIR-VEHICLE = ON TAXI SPEED*

15.3.2.002.00*

MANIPULATE RUDDER PEDALS TO TURN INTO PARKING POSITION

DEPRESS

FLASHBLINDNESS WINDOW-LEFT = PARKING AREA*

PILOTS RUDDER PEDALS
TOE BRAKES

15.3.2.003.00*

OBSERVE SIGNALS OF PARKING ATTENDANT

OBSERVE

FLASHBLINDNESS WINDOW-LEFT = PRKNG DIRECTIONS

FLASHBLINDNESS WINDOW-LEFT

A-V = PARKING POSITION

15.3.2.004.00*

DEPRESS RUDDER PEDALS TO BRAKE TO STOP

DEPRESS

AIR-VEHICLE = PARKING POSITION

PILOTS RUDDER PEDALS
TOE BRAKES

AIR-VEHICLE = STOPPED

15.3.2.005.00*

HOLD BRAKES DEPRESSED UNTIL GO SIGNALS WHEEL CHOCKS IN PLACE

DEPRESS

AIR-VEHICLE = STOPPED

TOE BRAKES

AIR-VEHICLE = CHECKED*

OBJECTIVE: FLIGHT STATION SHUTDOWN

15.11

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Taxi configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. OSO & DSO insert ejection seat safety pins.

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that ejection seat safety pins should be installed as soon as possible after landing to preclude accidental activation of the seat while equipment is being stowed/unstowed and crewmembers are moving around.
2. Recall that the center position of the landing/taxi light control switch turns off all three lights.
3. Recall what the standard hand signal is for wheels chocked.
4. Recall that by turning the flight director mode switch to OFF, the flight director computer/monitor is in a standby mode with no steering information displayed on the VSD or SADI.
5. Recall that the IFF master control select knob must be pulled outward to select the off position.
6. Recall that by turning pitot heat to OFF, each heater in the CADS pilot head, total temperature probe and angle of attack sensor is de-activated.
7. Recall that with the engine/inlet anti-icing switch in OFF, the anti-ice bleed air valves are closed, terminating or preventing the initiation of the anti-ice cycle.
8. Recall that by positioning the anti-collision switch to OFF, electrical power is removed from the tail and two wing mounted strobe lights.
9. Recall that by setting the position light select switch to OFF, all electrical power is removed from the position lights.

ENABLING OBJECTIVES: (continued)

10. Recall that when the UHF radios function switch is set to OFF, the radio's receive/transmitter is off.
11. Recall that when the TACAN mode select switch is off, electrical power to the TACAN system is removed.
12. Recall that by setting the HF radio mode select switch to off, the radio receiver/transmitter is turned off.
13. Recall that by positioning the GSS rotary select switch to OFF, both primary and battery power are removed from the system.
14. Recall that with the EVS control select switch in RET, the IR pod is stowed.

ANCILLARY OBJECTIVES:

1. Recall that when the HF radio mode switch is OFF, neither the SSB, AME or FSK modes are available.
2. Recall that with the EVS control select switch in RET, IR control is with the OSO.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	15.3.2.1	15.4.1.7
	15.4.1.1	15.4.1.8
	15.4.1.2	15.4.1.9
	15.4.1.3	15.4.1.10
	15.4.1.4	15.4.1.11
	15.4.1.5	15.4.1.12
	15.4.1.6	15.4.1.13
		15.4.1.14

15.3.2.001.00*

INSERT EJECTION HANDLE SAFETY PINS*

CHECKLIST = SEQUENCE

INSERT

EJECTION PINS

EJECTION CONTROLS, FORWARD STA= SAFETIED
AND ICS = "PINS INSTALLED"

15.4.1.001.00*

POSITION TAXI LIGHT SWITCH TO 'OFF', IF NECESSARY

CHECKLIST = SEQUENCE

SET

LANDING/TAXI LIGHT CONTROL SW

LANDING/TAXI LIGHT CONTROL SW = OFF

15.4.1.002.00*

CHECK THAT WHEELS ARE CHOCKED

CHECKLIST = SEQUENCE

CHECK

WINDSHIELD - LEFT
SIDE WINDOW - LEFT

WINDSHIELD - LEFT = CHOCKED SIGNAL*
OR SIDE WINDOW - LEFT = CHOCKED SIGNAL

15.4.1.003.00*

POSITION FLIGHT DIRECTOR MODE SWITCHES (2) TO 'OFF'

CHECKLIST = SEQUENCE

SET

FLT DIR MODE SWITCH-PILOT
FLT DIR MODE SWITCH-COPILOT

FLT DIR MODE SWITCH-PILOT = OFF
AND FLT DIR MODE SWITCH-COPILOT = OFF

15.4.1.004.00*

SET IFF MASTER CONTROL SELECT KNOB TO 'OFF'

CHECKLIST = SEQUENCE

SET

MASTER CONTROL SELECT SWITCH

MASTER CONTROL SELECT SWITCH = OFF

15.4.1.005.00*

POSITION PITOT HEAT SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	PITOT HEAT CONTROL SWITCH	
	PITOT HEAT CONTROL SWITCH	= OFF

15.4.1.006.00*

POSITION ENGINE-INLET ANTI-ICING SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	ENGINE ANTI-ICE SWITCH	
	ENGINE ANTI-ICE SWITCH	= OFF

15.4.1.007.00*

POSITION ANTI-COLLISION LIGHT TOGGLE SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	ANTI-COLLISION CONTROL SWITCH	
	ANTI-COLLISION CONTROL SWITCH	= OFF

15.4.1.008.00*

POSITION FUSELAGE LIGHT SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	POSITION LIGHT SWITCH	
	POSITION LIGHT SWITCH	= OFF

15.4.1.009.00*

SET UHF #1 FUNCTION SELECT SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	FUNCTION SELECT SW-PILOT	
	FUNCTION SELECT SW-PILOT	= OFF

15.4.1.010.00*

SET UHF #2 FUNCTION SELECT SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	FUNCTION SELECT SW-COPILOT	
	FUNCTION SELECT SW-COPILOT	= OFF

15.4.1.011.00*

SET TACAN MODE SELECT SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	MODE SELECTOR SWITCH-TACAN	
	MODE SELECTOR SWITCH-TACAN	= OFF

15.4.1.012.00*

SET HF RADIO MODE SELECT SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	RADIO MODE SELECT SWITCH	
	RADIO MODE SELECT SWITCH	= OFF

15.4.1.013.00*

POSITION GSS #1 ROTARY SELECT SWITCH TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	ROTARY SELECTOR SWITCH	
	ROTARY SELECTOR SWITCH	= OFF

15.4.1.014.00*

POSITION EVS (IR) CONTROL SELECT SWITCHES TO 'RETRACT'*

	CHECKLIST	= SEQUENCE
SET	IR POD CONTROL	
	IR POD CONTROL	= RET

OBJECTIVES: AVIONICS STATION SHUTDOWN

15.12

CRITICALITY: 3

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Taxi configuration

CONCURRENT TASKS:

INTERACTION TASKS: 1. P,CP and DSO insert ejection seat safety pins
2. Performed currently with flight station shutdown

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that ejection seat safety pins should be installed as soon as possible after landing to preclude the accidental actuation of the seat while equipment is being stowed/unstowed.
2. Recall that by setting the FLR photo toggle switch to OFF, the automatic capability of the camera is inoperative.
3. Recall that with the FLR function switch in OFF, the entire system is deenergized.
4. Recall that with the EVS video mode set to OFF, all electrical power is removed from the MFD.
5. Recall that with the FLIR mode switch in OFF, all power is removed from the FLIR.
6. Recall that in the off position, the BOMB TIMER is in a positive detent and the TIMER unit is completely deactivated.
7. Recall that the Nuclear Rack Unlock/Safe switch in the SAFE position insures that the racks remain locked.
8. Recall that the Conventional ARM/SAFE switch in SAFE disables the arming of conventional weapons.
9. Recall that with the FWD/REV switch in the neutral position, the OSO cannot look forward or backward on weapon delivery programs.
10. Recall that with the store power switch selection to OFF, power cannot be applied to nuclear weapons.

ENABLING OBJECTIVES: (continued)

11. Recall that with the jettison switches set in NORM, neither a selected weapon or all weapons can be jettisoned.
12. Recall that with all SLUs set in the disable position, no power is provided to the ACU which controls the operation of the SLUs.
13. Recall that with INS 1 in DSBL prevents the ACU to turn on INS 1.
14. Recall that with INS 2 in DSBL prevents the ACU to turn on INS 2.
15. Recall that with the GN/DSBL switch in DSBL prevents commands to turn on the General Navigation ACU.
16. Recall that with the WD/DSBL switch in DSBL prevents commands to turn on the Weapons Delivery ACU.
17. Recall that the intensity of the integral instrument panel lighting should be turned full counterclockwise.
18. Recall that the intensity for the alphanumeric ANO displays on the consoles and instrument panels should be turned full counterclockwise.
19. Recall that with the spot light turned off, no light is provided for the chartboard.
20. Recall that the intensity control for the flood lighting should be turned full counterclockwise.

ANCILLARY OBJECTIVES:

1. Recall that with the EVS video mode set to OFF, power to the FLIR is not available.
2. Recall that the Nuclear Rack Unlock/Safe switch provides one part of the two man requirements to enable unlocking of the nuclear weapon racks.

OPERATOR: OSO

<u>TASK ELEMENTS:</u> 15.3.2.1	15.4.2.7
15.4.2.1	15.4.2.8
15.4.2.2	15.4.2.9
15.4.2.3	15.4.2.10
15.4.2.5	15.4.2.11
15.4.2.6	

15.3.2.001.00*

INSERT EJECTION HANDLE SAFETY PINS*

INSERT

CHECKLIST = SEQUENCE
EJECTION PINS
EJECTION CONTROLS; FORWARD STA = SAFETIED
AND ICS = PINS INSTALLED

15.4.2.001.00*

POSITION FLR PHOTO TOGGLE SWITCH TO 'OFF'*

SET

CHECKLIST = SEQUENCE
PHOTO CONTROL
PHOTO CONTROL = OFF

15.4.2.002.00*

POSITION RADAR FUNCTION ROTARY SWITCH TO 'OFF'*

SET

CHECKLIST = SEQUENCE
MODE SWITCH-RADAR SET-2
MODE SWITCH-RADAR SET-2 = OFF

15.4.2.003.00*

POSITION EVS VIDEO SELECT SWITCH TO 'OFF'*

SET

CHECKLIST = SEQUENCE
VIDEO SELECT SWITCH
VIDEO SELECT SWITCH = OFF

15.4.2.005.00*

POSITION FLIR MODE SELECT ROTARY SWITCH TO 'OFF'*

SET

CHECKLIST = SEQUENCE
MODE SELECT SWITCH-FLIR
MODE SELECT SWITCH-FLIR = OFF

15.4.2.006.00*

SET BOMB TIMER KNOB TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	BOMB TIMER POWER SWITCH	
	BOMB TIMER POWER SWITCH	= OFF

15.4.2.007.00 *

CHECK THAT ALL SWITCHES ON SMS PANEL ARE 'OFF, NORM, OR SAFE'

	CHECKLIST	= SEQUENCE
CHECK	STORES MANAGEMENT PANEL	

15.4.2.007.01*

CHECK THAT ALL NUCLEAR ARMING SWITCHES ARE 'SAFE'

	CHECKLIST	= SEQUENCE
CHECK	NUCLEAR RACK CONTROL SWITCH	
	NUCLEAR PREARM ENABLE SWITCH	
	PA-SAFE SWITCH	
	NUCLEAR RACK CONTROL SWITCH	= SAFE
	AND PA-SAFE SWITCH	= SAFE

15.4.2.007.02*

CHECK CONV ARMING SW IN SAFE AND FWD-REV SW IN NORM

	CHECKLIST	= SEQUENCE
CHECK	SAFE-ARM SWITCH	
	FORWARD/REVERSE SWITCH	
	SAFE-ARM SWITCH	= SAFE
	AND FORWARD/REVERSE SWITCH	= N

15.4.2.007.03*

CHECK ST PWR SW IS IN OFF AND JETT SW IS IN NORM

	CHECKLIST	= SEQUENCE
CHECK	STORE POWER SWITCH	
	JETTISON SWITCHES	
	STORE POWER SWITCH	= OFF
	AND JETTISON SWITCHES	= NORM

15.4.2.008.00*

CHECK ALL STATION LOGIC UNIT SWITCHES TO 'DISABLE'

	CHECKLIST	= SEQUENCE
CHECK	STATION LOGIC UNIT SWITCHES	
	STATION LOGIC UNIT SWITCHES	= DSBL

15.4.2.009.00*

SET INS #1 & INS #2 SWITCHES ON AUX PANEL TO 'DISABLE'

	CHECKLIST	= SEQUENCE
SET	INS1 DSBL SWITCH	
	INS 2 DSBL SWITCH	
	INS1 DSBL SWITCH	= DSBL
	AND INS 2 DSBL SWITCH	= DSBL

15.4.2.010.00*

POSITION GN NAV & WPNS DEL ACU SWITCHES TO 'DISABLE'

	CHECKLIST	= SEQUENCE
SET	GN-DSBL SWITCH	
	WD-DSBL SWITCH	
	GN-DSBL SWITCH	= DSBL
	AND WD-DSBL SWITCH	= DSBL

15.4.2.011.00*

SET CONSOLE LIGHTS TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	INTGR-AND CONTROL	
	SPOT CONTROL	
	FLOOD CONTROL	
	INTGR-AND CONTROL	= OFF
	AND FLOOD CONTROL	= OFF

OBJECTIVE: START L/APU

15.13

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Taxi configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that with the CSD mode switches in NORM coupling is provided between the accessory drive gearbox and the constant speed drive.
2. Recall that with the generator switches in ON, the generator is electrically connected to its respective bus.
3. Recall that when the battery select switch is set to AUTO/ON, each battery is connected to its battery bus providing power for APU starting.
4. Recall that with the left ECS SPLY switch set to ON, a bleed air valve on APU #1 is opened.
5. Recall that by positioning the APU start switch to START, the switch is held in the start position until the exhaust temperature gage indicates that ignition start has taken place.
6. Recall that the voltage and frequency indicated on the respective gages will correlate with the generator selection.

ANCILLARY OBJECTIVES:

1. Recall that with the battery select switch in AUTO/ON, power is provided for fire warning, fire extinguishing and other systems requiring dc power prior to A/V engine starting.
2. Recall that with the left ADS control on BOTH allows the #1 and #2 engines to be rotated by the APU when the appropriate ADG drive train is up to speed provided the engine start switch is in the start position.

ANCILLARY OBJECTIVES: (continued)

8. Recall that if the APU exhaust temperature gage indicates a high reading, some load must be removed to prevent a potential APU shutdown.

OPERATOR: P/CP

<u>TASK ELEMENTS:</u>	15.4.3.1.	15.4.3.5
	15.4.3.2	15.4.3.6
	15.4.3.3	15.4.3.7
	15.4.3.4	15.4.3.8

15.4.3.001.00*

VERIFY CSD DECOUPLE SWS FOR GENS 1 & 2 ARE IN 'NORMAL' POSN

CHECKLIST

= SEQUENCE

CHECK

#1 CONSTANT SPD DRIVE MODE SEL
#2 CONSTANT SPD DRIVE MODE SEL

#1 CONSTANT SPD DRIVE MODE SEL= NORM
AND #2 CONSTANT SPD DRIVE MODE SEL= NORM

15.4.3.002.00*

VERIFY NO 1 AND NO 2 GENERATOR SWITCHES ARE 'ON'

CHECKLIST

= SEQUENCE

CHECK

#1 GENERATOR MODE SWITCH
#2 GENERATOR MODE SWITCH

#1 GENERATOR MODE SWITCH = ON
AND #2 GENERATOR MODE SWITCH = ON

15.4.3.003.00*

SET BATT LEVER-LOCK SWITCH ON ELEC PANEL TO 'AUTO-ON' POSN

CHECKLIST

= SEQUENCE

SET

BATTERY SELECT SWITCH

BATTERY SELECT SWITCH = AUTO-ON

15.4.3.004.00*

VERIFY LEFT ADS ROTARY CONTROL ON APU PANEL IS IN 'BOTH'

CHECKLIST

= SEQUENCE

CHECK

LEFT ADS COUPLE SWITCH

LEFT ADS COUPLE SWITCH = BOTH

15.4.3.005.00*

VERIFY ECS SPPLY SWITCH FOR 1 APU ON APU PANEL IS 'ON'

CHECKLIST

= SEQUENCE

CHECK

LEFT ECS SUPPLY SWITCH

LEFT ECS SUPPLY SWITCH = ON

15.4.3.006.00*

MOMENTARILY PRESS LEFT APU SWITCH TO 'START' POSITION*

	FLASHBLINDNESS WINDOW-LEFT	= APU IS CLEAR*
DEPRESS	LEFT APU MODE SWITCH	
	LEFT APU MODE SWITCH	= START*
	AND LEFT RUN LIGHT	= 'L RUN'

15.4.3.007.00*

MOVE VOLTAGE-FREQ SW TO GEN NO 1 AND THEN NO 2 AND MONITOR*

	LEFT RUN LIGHT	= 'L RUN'
SET	VOLTAGE/FREQ SELECTOR SWITCH	
	VOLTAGE/FREQ SELECTOR SWITCH	
	VOLTAGE METER	= 230
	AND FREQUENCY METER	= 400

15.4.3.008.00*

MONITOR L APU EXH TEMPERATURE

	LEFT RUN LIGHT	= 'L RUN'
MONITOR-VISUAL	LEFT APU EXHAUST TEMP GAGE	
	LEFT APU EXHAUST TEMP GAGE	= 150*

OBJECTIVE: PERFORM ENGINE SHUTDOWN

15.14

CRITICALITY: 2

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Taxi configuration

CONCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS: 1. Proper sequence
 2. Switches in proper positions

ENABLING OBJECTIVES:

1. Recall that the quantity of oil remaining in the engine oil reservoirs is displayed in percent of reservoir capacity.
2. Recall that the gross fuel quantities remaining on the individual fuel quantity tapes should add up to the total fuel quantity displayed by the total fuel quantity indicator.
3. Recall that when the c g mode selector is set to the value to be used for take-off, the horizontal bar shaped pointer on the TGT tape indicates the desired CG location.
4. Recall that the engine start/run switches are lever-lock toggle switches requiring the handle be pulled out, releasing the lock, in order to reposition the switch into the off position.

ANCILLARY OBJECTIVES:

1. Recall that the target pointer should be located between the pointer that indicates the forward CG limit and the aft CG limit.
2. Recall that selecting the engine start/run switch to OFF will drive the engine power lever to OFF, independently of flight station throttle control lever position.

OPERATOR: P/CP

TASK ELEMENTS: 15.4.4.1
 15.4.4.2

15.4.4.3
15.4.4.4

15.4.4.001.00*

CHECK AND RECORD ENGINE OIL QUANTITY

	CHECKLIST	= SEQUENCE
CHECK	OIL QUANTITY INDICATOR	
	OIL QUANTITY INDICATOR	= TBD*
	AND FLIGHT LOG	= RECORDED

15.4.4.002.00*

CHECK AND RECORD TOTAL FUEL QUANTITY

	CHECKLIST	= SEQUENCE
CHECK	TOTAL FUEL QUANTITY INDICATOR	
	TOTAL FUEL QUANTITY INDICATOR	= TBD*
	AND FLIGHT LOG	= RECORDED

15.4.4.003.00*

SET MODE PERCENT MAC SWITCH TO TBD VALUE FOR TAKE-OFF

	CHECKLIST	= SEQUENCE
SET	SET MODE % MAC SELECTOR SW	
	SET MODE % MAC SELECTOR SW	= TBD*

15.4.4.004.00*

POSITION ENGINE START-RUN SWITCHES TO 'OFF'

	CHECKLIST	= SEQUENCE
SET	ENGINE START SWITCH	
	ENGINE START SWITCH	= OFF

OBJECTIVE: PRE-EXIT PROCEDURES

15.15

CRITICALITY: 1

DIFFICULTY: 1

INITIAL CONDITIONS: 1. Takeoff configuration

VCURRENT TASKS:

INTERACTION TASKS:

PERFORMANCE LIMITS:

ENABLING OBJECTIVES:

1. Recall that a door holdback latch retains the door in the open position.
2. Recall that manual operation of the entry ladder can be accomplished through use of a flexible drive shaft which drives the actuator.

ANCILLARY OBJECTIVES:

OPERATOR: OSO

TASK ELEMENTS: 15.4.5.1
15.4.5.2

15.4.5.001.00*

ACTIVATE CREW MODULE ENTRY DOOR HANDLE TO 'OPEN' & LATCHED

A-V

= MANNED*

SET

OPEN-CLOSE DOOR HANDLE

OPEN-CLOSE DOOR HANDLE

= OPEN*

15.4.5.002.00*

POSITION ENTRY LADDER CONTROL SWITCH TO 'DN'

A-V

= MANNED*

AND OPEN-CLOSE DOOR HANDLE

= OPEN

SET

ENTRY LADDER CONTROL SWITCH

ENTRY LADDER CONTROL SWITCH

= DN*